

*American*

# FORESTS

MARCH 1955

50 CENTS



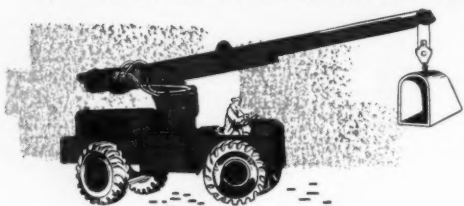
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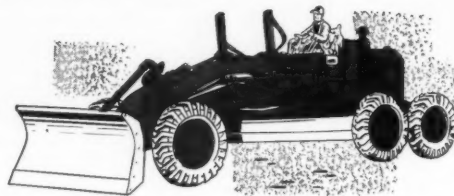
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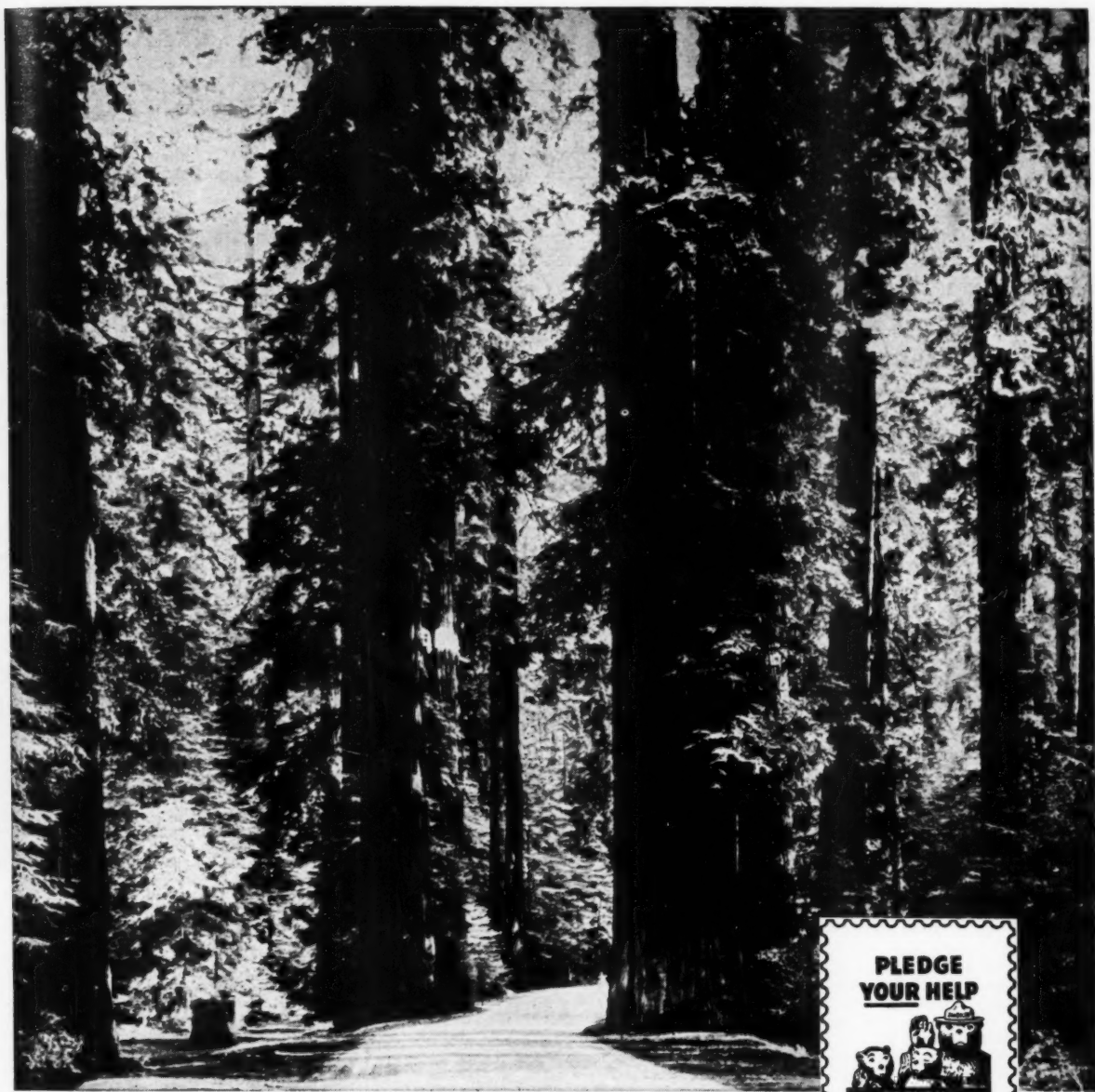
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Volume 61

No. 3

March, 1955

# American FORESTS

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The American Forestry Association, publishers of AMERICAN FORESTS, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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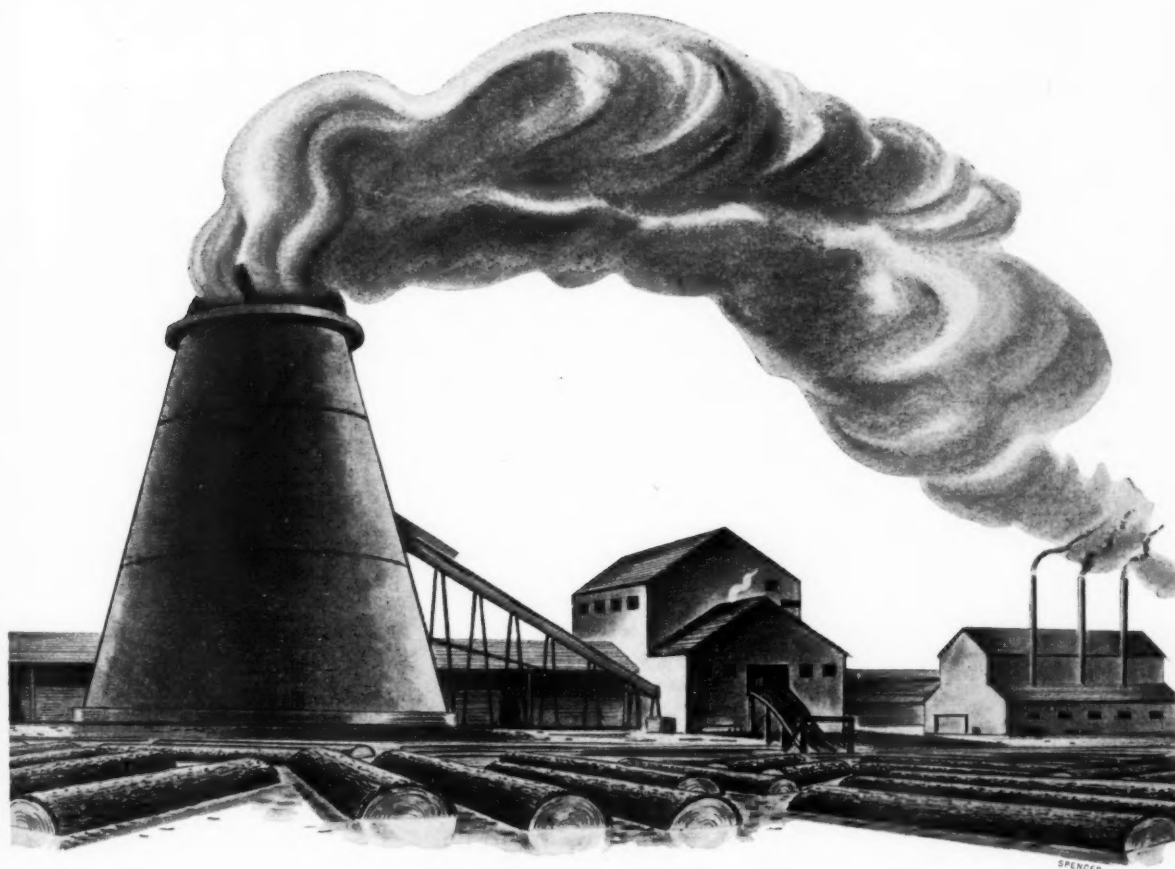
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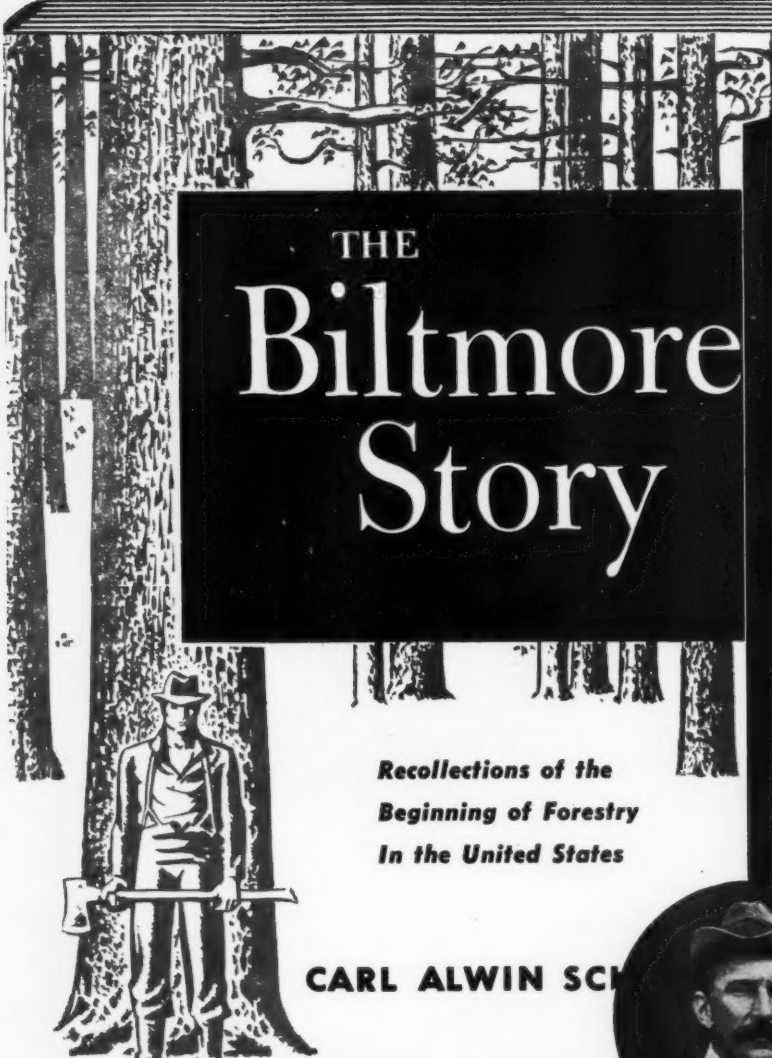
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# Washington



# Lookout

## LEGISLATION, EXECUTIVE ORDERS, AND ACCOMPLISHMENTS OF CITIZEN'S GROUPS AND VARIOUS

local, state and national governmental agencies provide an accurate reflection of the progress of the conservation movement during the 50 years since the advent of the U. S. Forest Service. Following are highlights of these activities.

1905—THE ACT OF FEB. 1 (33 STAT. 626) PROVIDED FOR THE TRANSFER OF FOREST RESERVES from the Department of Interior to the Department of Agriculture. The present Forest Service dates from this act. The subsequent agricultural appropriations act designated the old Bureau of Forestry as the Forest Service.

1906—THE ACT OF JUNE 11 (34 STAT. 233) PROVIDED THAT THOSE LANDS WITHIN FOREST RESERVES chiefly valuable for agriculture be listed for homestead and entry purposes. Under this act a huge program of land classification was carried out and several million acres of land withdrawn from the national forest reserves.

1907—A WESTERN ELEMENT IN CONGRESS, OPPOSED TO THE NATIONAL FOREST ENTERPRISE, succeeded in attaching to the agricultural appropriations bill a rider prohibiting any further additions by Presidential proclamation to the forest reserves in Oregon, Washington, Idaho, Montana, Colorado, and Wyoming. President Theodore Roosevelt signed the bill carrying the rider to be effective March 4, but before he did so—on March 1 and 2—he signed 33 proclamations by which new reserves were created and areas added to already established reserves so that a total of 15,645,631 acres was added to the forest reserve system. Also during this year, the name "forest reserve" was changed to "national forest."

1908—TO BRING ADMINISTRATION OF FIELD WORK CLOSER TO THE FORESTS, SIX DISTRICT OFFICES of the Forest Service were created, each under a district forester. The first forest experiment station was established on the Coconino Plateau in Arizona. The act of May 23 (25 Stat. 251) provided that 25 percent of all money received by national forests (for grazing permits, sale of timber, or other special uses or products) should be paid to the states for the benefit of the public schools and public roads of the counties containing the national forests.

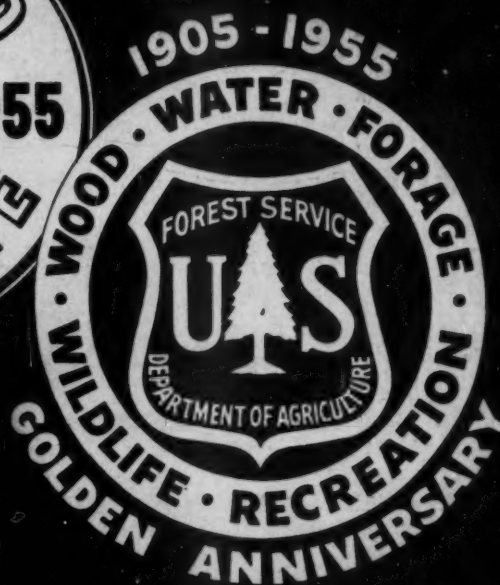
1909—THE NORTH AMERICAN CONSERVATION CONFERENCE WAS HELD IN WASHINGTON. Statements of principles of conservation for the North American continent were adopted. The Western Forestry and Conservation Association was established. During this and preceding eight years of Theodore Roosevelt's administration more than 148 million acres became national forests.


1910—THE FOREST PRODUCTS LABORATORY WAS ESTABLISHED BY THE FOREST SERVICE in cooperation with the University of Wisconsin at Madison, Wisconsin. This laboratory was the first of its kind and became the world's outstanding institution for the scientific study of wood and its uses. An act was passed authorizing the President to reserve public lands for water power sites or irrigation.






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




- 1911—IN THE WEEKS LAW A NEW NATIONAL POLICY WAS ESTABLISHED—the purchase by the federal government of forest lands necessary to the protection of the flow of navigable streams. Most of the national forests east of the Great Plains, where there was little land left in the public domain, were acquired by purchase of lands under this act and acts amending it. The Weeks Law also established a program of federal-state cooperation in fire protection, later expanded under the Clarke-McNary law of 1924.
- 1912—THE ACT OF AUGUST 10 PROVIDED THAT 10 PERCENT OF ALL FOREST RECEIPTS for the fiscal year 1912 should be used for roads and trails within the national forests in the states from which the receipts came. This arrangement was made permanent the next year. The need for roads and trails was tragically shown by the terrible fires of 1910.
- 1914—THE EASTERN NATIONAL FOREST DISTRICT WAS ESTABLISHED BY THE FOREST SERVICE. Headquarters were at Washington, D. C., but were moved to Philadelphia in 1941.
- 1915—THE TERM LEASE LAW WAS PASSED BY CONGRESS, AUTHORIZING issuance of term permits on national forests for summer homes, hotels, stores, and other structures needed for recreation or public convenience.
- 1916—TEN MILLION DOLLARS WERE APPROPRIATED "for the survey, construction, and maintenance of roads and trails within or only partly within the national forests, when necessary for the use and development of resources upon which communities within and adjacent to the national forests are dependent." This was in addition to the 10 percent of receipts set aside in 1912.
- 1920—A SENATE RESOLUTION CALLED FOR A REPORT ON TIMBER DEPLETION, LUMBER PRICES, lumber exports and timber ownership in the United States. The report prepared by the Forest Service, known as the "Capper Report," gave the most complete nation-wide data on the forest situation up to that time. The Association of State Foresters was established to promote cooperation in forestry matters between the states, as well as with the federal government.
- 1921—THE ALASKA NATIONAL FOREST DISTRICT WAS ESTABLISHED, with headquarters at Juneau. The Highway Act of November 9 made separate appropriations for roads of general public importance and roads of primary forest importance in the national forests.
- 1922—AN ACT WAS PASSED UNDER WHICH NATIONAL FOREST LAND could be exchanged for privately-owned land within the boundaries of national forests. A 1925 act authorized exchange of national forest timber for private land.
- 1924—THE CLARKE-MCNARY LAW EXTENDED THE FEDERAL LAND PURCHASE POLICY under the Weeks Law of 1911. Lands necessary for the production of timber, as well as for the protection of navigation, within the watersheds of navigable streams could be purchased. The 1924 act also authorized the Secretary of Agriculture to enter into cooperative agreements with the states for the protection of state and private forests against fire and various other cooperative efforts.
- 1928—THE MCSWEENEY-MCNARY ACT AUTHORIZED A PROGRAM OF FOREST RESEARCH to "insure adequate supplies of timber and other forest products, to promote the full use of timber growing and other purposes of forest lands in the United States, including farm woodlots and those abandoned areas not suitable for agricultural production, and to secure the correlation and the most economical conduct of forest research in the Department of Agriculture. . ."
- 1930—THE SECRETARY OF AGRICULTURE APPROVED THE SUBSTITUTION of the name "region" and "regional forester" for "district" and "district forester." An act also was passed authorizing the expansion of tree planting on the national forests.
- 1933—ON MARCH 21, PRESIDENT FRANKLIN D. ROOSEVELT SENT TO CONGRESS his message on legislation to relieve distress, to build men, and to build up the nation's forest resources. Ten days later Congress enacted legislation for the

(Turn to page 61)



**IN 1905** the Forest Service, U.S. Department of Agriculture, was established to work with public and private groups to increase the productivity of our forests. That year also marked the birth of fir plywood which was displayed as a novelty at Portland's Lewis & Clark Exposition 

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It is with pride that AFA this month salutes the 50th anniversary of the great federal service it helped to create.

# EDITORIAL

## Accomplishments Yet to be Written on the Land

One disturbing element on this Golden Anniversary of forestry is that a sizeable cross section of the public persists in viewing the forester as a "custodian" of land rather than as a "land manager." In view of our increasing population and the proportionately greater demands being made on land, this is a situation that must be corrected if our foresters are to grapple successfully with such problems as water management, timber production and other renewable resources, on the one hand, and the land-use problems on the other. Unless we have misinterpreted the signs, the next several decades will be known as the years of the land manager in America. Pressing land management problems that are arising will call for the services of the best qualified technicians our schools can produce. Only likely candidates for these posts as of now are professional foresters—provided they continue to show the necessary capacity for growth, imagination, and ability to adjust to rapidly changing conditions.

That the "custodial" attitude of the public still prevails is indeed puzzling in view of the philosophy of leading foresters of yesterday and today and reported forestry advances on many broad fronts. Such men as Pinchot, Graves and Greeley were (and are) "wise use" conservationists from the word go. Young foresters of today are even more strong in their "wise use" convictions. Ask almost any Forest Ranger if he regards himself as a "custodian" and he will tell you he is a "land manager," and in cogent terms. To apply the "custodial" tag to many industrial foresters would be like waving a red flag in front of a bull.

Yet, the "custodian" concept persists. It is part and parcel of the thinking of many intelligent people one meets every day. Despite the almost phenomenal gains made by some of our larger companies, and others not so large, in harvesting trees wisely many people appear to be disenchanted with the idea of industrial forestry generally. Others don't seem to realize that the Forest Service harvests forest crops at all. This despite the fact that forestry on national forests today is a big business. Equipment owned by the Forest Service for timber management totals 34 million dollars. Capital investments on national forests (including the road nets over which forest products are hauled) are evaluated at 650 million dollars. Income from timber on these forests has topped 70 million dollars in one year.

This is certainly progress, and as Chief Forester Richard E. McArdle rightfully told the

whole forestry movement at our Anniversary dinner, "Your accomplishments are written on the land." Even so, this writing, obviously, is not as yet being read by enough people, or isn't sufficiently legible, to create the desired climate for future advances on a greatly-accelerated scale. Advances which will assure achievement of the three big goals in AFA's Program for American Forestry which are: 1) to meet the essentials of forest protection; 2) to improve the national timber crop in volume and quality to a degree sufficient to wipe out all deficits and build up a reserve; 3) to obtain the maximum of economic and social services from our forests by realistic application of the principles of multiple use in land management.

These are tremendous objectives. Which reminds us that an anniversary should be something more than a fleeting glimpse backwards. It should also be a time for recharging the batteries in terms of the tasks ahead. Those tasks? Well, the Forest Service certainly faces the greatest challenge of its career in placing its lands under intensive management; in spelling out the multiple use concept in terms of the whole land and people on the land; in stepping up research (especially on forest insects and diseases); and in continuing its needed cooperative effort with the states. In addition to their present fire effort, the states should add more management strings to their bow. With a tremendous stake in the forest future, every wood industry in the nation, in addition to putting their own woodlands in order, should stop merely giving lip service to such excellent programs as the tree farm movement and others equally fine and join those already in these programs with actual assistance. And with the bulk of small forest properties still devoid of any appreciable management effort at all, the combined efforts of federal, state and industrial forestry will be required in waging a great cooperative educational program that will put these small properties on the right track.

As one previews these tasks ahead, only one conclusion can be drawn on this 50th anniversary of forestry. Despite good gains in the past, both the size of the job ahead and lack of public knowledgeability on work already accomplished indicate that we have not as yet even scratched the surface in waging intensive land management on this big land of ours. The big jobs lie ahead. The next 20 years promise to be crucial years in the history of land and its proper management. How well we make use of those years will have a great bearing on the future prospects of both our children and our children's children.

A half century ago those in the vanguard of the forestry movement were a strange breed on the American scene. Preaching a new credo of resources management, they were militant, uncompromising—and their trumpets were never silent

# THE FIRST 25 YEARS

By W. B. GREELEY

THE fates which chart the course of human events did a good turn for the American people when they put Theodore Roosevelt in the White House and simultaneously Gifford Pinchot in the Bureau of Forestry.

Both these men loved the outdoors and all its works. Both of them lived the "strenuous life." They were aggressive men who welcomed battle and instinctively chose the more daring course of action. And they were past masters of the art of dramatic appeal to public opinion. The joint appearance of these champions on the national scene put an unbeatable team in the fight for forest conservation.

Their zest for combat and their teamwork were well illustrated when Congress hung a "rider" on an appropriation bill which would end the power of the President to create national forests by executive order in six of the western states. Roosevelt could not veto a major supply measure, but he let it sit on his desk for the maximum legal period of ten

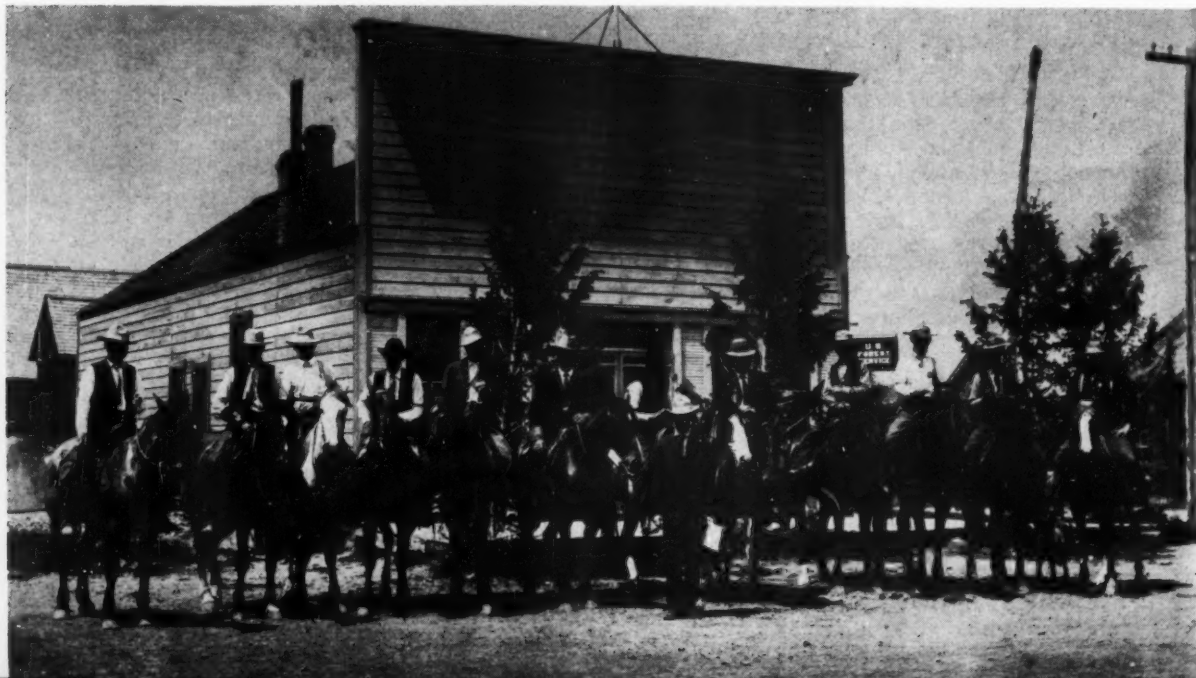
days. Meanwhile, Forester Pinchot's cohorts combed every map and field report. The procession of executive orders from the Atlantic Building to the White House became a daily ritual. And after "Terrible Teddy" had issued orders adding 18 million acres to the national forests in six states, he signed the bill which stripped him of this power.

Roosevelt and Pinchot made forestry the nation's business. They built up the national forests withdrawn from the public domain to 173 million acres. They laid the ground work for many more millions of acres to be purchased on the watersheds of navigable streams. They created a great federal service for forest administration and public education. But more than all this, they fused the campaigns for specific things into a continuing national crusade of public enlightenment and political action at both state and national levels. These two men put over the most remarkable selling job in the history of the republic. They reversed the political

thinking of two and a half centuries of "free land and inexhaustible timber." They made both people and Congress conservation-minded. They gave the Forest Service its greatest assets, the spirit of public service within the organization and the support of an alert public opinion.

The number one task of the rechristened Forest Service was the management of the great federal properties which Congress entrusted to us in 1905. We had to translate the beautiful ideals of "conservation through wise use" and Secretary James Wilson's commandment, "the greatest good of the greatest number in the long run," into simple, workable rules adapted to the ways of life in the pioneer communities and ranches of the young West. Mr. Pinchot drove hard to wipe out the stigma of the term *Reserve* first applied to these redrawals of public land. The national forests were for use. Our code of regulations and instructions was officially the "Use Book." And echoing "G.P.'s" aversion to the formal, legalistic inter-

A group of foresters, vintage of 1907, about to start work on the Challis National Forest, Custer County, Idaho. In background is supervisor's office





pretation of public land laws that had prevailed in the Department of Interior, the young knights of his round table exuberantly provided for every conceivable form of use on the national forests that Congress had not specifically forbidden.

There was free use of timber for the fuel and buildings of the settler and of pasturage for his milch and work animals. Unless specifically reserved for a municipal watershed or recreational area or for some administrative purpose, all mature timber was for sale. It could be bought right off the cuff in small quantities or to meet an emergency. Large bodies were advertised for competitive bids; and the Chief enjoined all his Supervisors and Inspectors to be aggressive salesmen of our 600 billion feet of stumpage. He was anxious to convince members of Congress still rebellious over the plunge into public forest ownership, by the clink of hard cash in the federal treasury. And he hoped also to loosen the purse strings held tightly by appropriation committees.

The most widespread use of the national forests and the one most affecting the people of the West was the grazing of livestock. The herds of sheep and cattle on all the forests ran to a total of nine million animals. The Supervisors struggled to get their livestock under permit; to establish range allotments and grazing seasons; to end the range wars and trespass. For almost every other form of occupancy, we issued special use permits. They covered cabins, tilled fields, fenced pastures, mill sites, reservoirs and water works, hydroelectric power sites, rights-of-way for roads, railroads or power lines. With mineral lands open to prospecting and entry, and agricultural lands to settlement under the Forest Homestead Act, there was no conceivable form of human service that did not find a place in this conception of *multiple use* governed by the character and value of the land itself.

In retrospect, I believe that one of the great contributions of the Forest Service to natural resource conservation is the practical demonstration of integrated use of land. It boils down to the management of land by the acre, by the quarter section, or by the watershed. In later years the conception was extended in many directions. More and more provision was made for recreation in public camp grounds, protected lake shores, summer home colonies, and the like. Primitive areas were set



Group of budding foresters in 1904. First row, l. to r., S. L. Moore, J. A. Howarth, G. L. Clenald. Second row, W. O. Filley, R. Y. Stuart, J. F. Bitner, unidentified, F. D. Bacon, W. Burbridge, H. O. Howood, G. E. Ellis, A. H. Pierson, A. H. D. Ross. Third row, A. D. Reed, D. C. A. Galarneau, E. E. Carter, H. S. Graves, W. H. Addison. Fourth row, R. L. Fromme, F. E. Ames, W. H. Weber, A. B. Recknagel, John Bentley



A tent was the office for these foresters, at work "way back when"



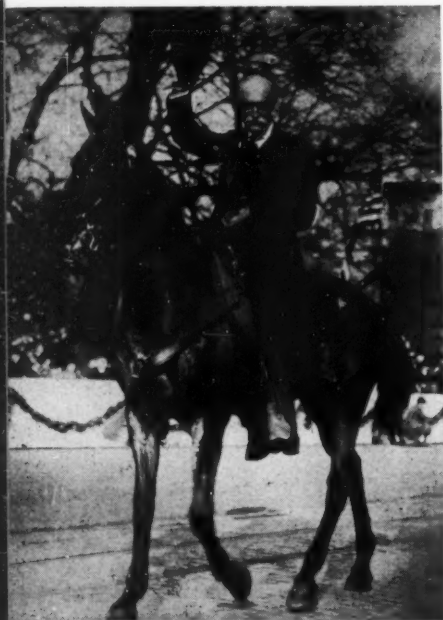
In 1910, forest ranger's test included a horsemanship demonstration

aside as scientific museums and spots for people to return to unspoiled nature. More acres have been devoted to wildlife refuges; more adjustments have been made in grazing for the protection of game herds. And constantly greater effort has gone into research and management practices for the better conservation of water.

In some instances the diversity in land use has been fortified by special legislation. But in the large, it rests essentially upon constructive, indeed imaginative, administration. Theodore Roosevelt said many times that *laws are made to be administered for the public good.*

A striking illustration of integrated use based upon the quality of the soil was the solution of the

Gifford Pinchot, astride horse, was a striking figure in 1925 Inaugural Parade



explosive problem of agricultural land within the national forests. There were numerous little patches of good tillable soil along the river valleys. Often they supported the finest stands of timber. Here was an issue made to order for the politicians opposed to national forests. The Forest Service was locking the land-hungry homesteader out of his rightful heritage, and blocking the development of the West! Several bills appeared in Congress like one written by Senator Carter of Montana. It sought to eliminate from the national forests a strip three miles in width along the entire length of the Kootenai River.

The General Homestead Law had left a shabby story of abuse in the timbered regions of the West. The Service had the thankless duty of opposing the issuance of patents to many homestead entries still pending when the land was withdrawn. The frauds were often lurid. "Residence" consisted of a few summer nights spent on the claim in a lean-to cabin of poles and shakes knocked together in three or four hours. "Cultivation," if attempted at all, was the clearing of a few square rods and scratching in of garden seed of some sort, a "crop" which the homesteader seldom bothered to harvest. On one claim in North Idaho, the settler buried a sack of potatoes on the day he staked out his corners. The next day he dug up his sack and cooked some potatoes for dinner. But in his *proof* to the General Land Office, he planted a crop of potatoes, harvested his crop, and consumed it while engaged in improving his claim. Invariably these homesteads carried from two to five million feet of timber.

The answer of the Forest Service to the demand for opening up its river valleys was, "*Let the land itself decide.*" The Forest Homestead Act of June 11, 1906, authorized the Secretary of Agriculture to open to entry individual tracts of land which he found to be chiefly valuable for agriculture. Surveyed lands could be set out by the smallest legal subdivision of ten acres. Unsurveyed lands were platted by metes and bounds, following the contour of an arable river bottom or bench. If the soil was agricultural but heavily timbered, its classification was deferred until the timber had been cut.

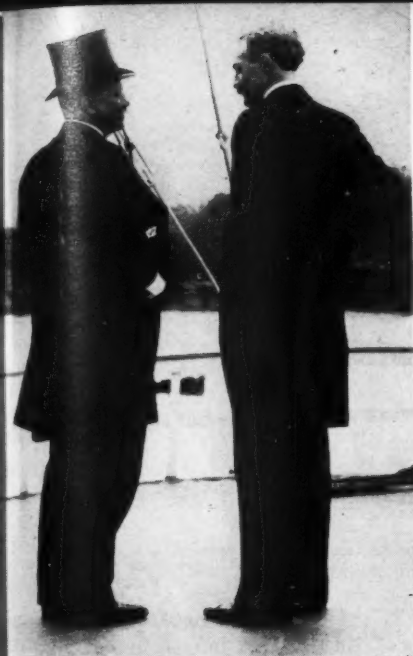
And so, with infinite patience, the examiners classified the lands of possible agriculture, case by case and section by section. At the outbreak of World War I about two million acres had thus been designated as farms for some 20,000 prospective homesteaders. In the course of the same intensive land classification, about 13 million acres were eliminated from the national forests altogether because of their character and location. It was a realistic answer to a very touchy situation: *Go to the land and get the facts.*

The toughest job on the national forests was the management of grazing. Here, through its twenty-odd thousand permittees, the Service dealt with a deeply rooted industry, the most individualistic and aggressive in the West. The pioneer stockmen had strong convictions about their "range rights," convictions based upon many years of free grazing on public lands. Often summer pasture was an integral and essential part of the year's operation and of the effective use of privately owned ranches in the lower country. But in many cases the public ranges were deteriorating from overgrazing. New settlers and small stockmen were demanding enough public range from the local sheep and cattle barons to get their herds on an economic footing. There were instances of severe erosion from overstocking the range. There were conflicts between grazing and water supply for irrigation or municipal use; between grazing and the regrowing of trees; between grazing and impressive herds of deer and elk.

The grazing story during the first 25 years was a story of continuing struggle between two opposing prin-

This 1912 photo shows Capt. J. B. Adams of the Forest Service, H. S. Graves, Chief Forester, Sec'y of Agri. James Wilson, Rowy Smith and an unknown man





President Theodore Roosevelt and Gifford Pinchot exchanging viewpoints



Secretary of Agriculture Wilson examining yellow pine seedling planted on old burn

ciples in the use of public range—the conception of a vested right acquired by prior use, and the conception of a national property managed for the greatest good of the greatest number. It is also a story of infinite patience on the part of the Forest Service in working out practical adjustments, locality by locality; in gradual reductions in herds on overgrazed ranges; deferred increases in grazing fees; of more order and stability in a very colorful and independent industry.

I have often thought of Albert F. Potter, Assistant Chief Forester with Gifford Pinchot and Henry S. Graves, as one of the really great architects of conservation. Painstakingly, year after year, Potter built the basic structure of range management. He established the qualifications for a grazing preference in ranch property; the *protective* limits up to which a small herd might be increased; the scale of gradual reductions permissible in large herds; the functioning of local advisory boards; the conditions where permits for five or ten years might be issued to stabilize range use—all with the assurance of the experienced stockman he was. Bert Potter's blueprints still provide the master design for administering public ranges.

The management of Uncle Sam's timber gave the young foresters in his Service a marvelous opportunity for exploring, mapping, and cruising; and for trying out textbook

theories in every conceivable situation as to forest types, markets, and logging methods. Most of us got our first training in selective marking in the yellow pine parks of the Black Hills or the lodgepole tie camps on the Medicine Bow. The Pinchot drive for all-out use of the forests quickly built up a fairly stable volume of small timber sales for the railroads, mines and isolated communities of the West. But to make the vast timber stands contribute their quota to the general lumber markets was a horse of another color. Lack of access was the greatest obstacle and with it the overburden of private stumpage carried by many sawmills. The lumber industry struggled through one period of over-production and market distress after another.

In 1912, the Service made a bold stroke to put the ax into more of its over-ripe forests, by offering much larger quantities under a single contract, with cutting periods up to 20 years and periodic reappraisals of stumpage prices. This device for inviting private capital to build the roads and railways necessary to put public forests under management was only partially successful. When depression struck the country in 1929, the yearly cut from the national forests had reached a billion and a half feet or about 25 per cent of the sustained yield estimated in Service working plans. Many pages in successive annual reports of the Chief Forester were filled with explana-

tions and justifications of the sales policy and particularly the unwisdom of trying to force public timber upon the market prematurely by slashing prices.

One of the hottest spots was Alaska. The "padlocking" of Alaska's resources by conservation "theorists" was a favorite weapon in the political battles of Washington. It was the basis of the Pinchot-Ballinger controversy in 1910, and of Secretary Albert Fall's attempt to take over the national forests of the territory in 1922. The Forest Service itself spent many a sleepless night over the problem of bringing

(Turn to page 75)

Soldiers three—Carter, Greeley, Cary—did much to advance the Forest Service







Photo courtesy Clarence Case  
 "1933—midnight in American history." President Franklin D. Roosevelt and his top aides manage to show optimism at CCC camp despite concern over depression

# THE SECOND 25 YEARS

By CHRISTOPHER M. GRANGER



Second 25 years saw an increasing number of farmers seeking forestry advice

**T**HE Forest Service entered the second quarter century of its existence amidst the national gloom induced by the advent of the Great Depression. The lumber industry, especially in the Pacific Northwest, was in such distress that by request the President appointed a Timber Conservation Board to consider public aid. National forest timber sales were sharply curtailed to avoid competition with private timber, much of which was being forced into hasty liquidation. Many timber owners burdened with then non-liquid stumpage sought to have Uncle Sam acquire their overburden. Unemployment rose sharply and emergency federal funds were allocated for work on the national forests to help use idle labor.

In those dark days who could have foreseen that soon on many fronts forestry, like June, would start "busting out all over?"

Franklin D. Roosevelt, with his Civilian Conservation Corps of 300,000 young men, later increased temporarily to 500,000, started it. A large share of these lads, deployed in camps all over the United States for the next nine years, planted trees, thinned and pruned young stands, combatted forest pests, fought forest fires, built countless miles of roads, trails, telephone lines, hundreds of ranger stations, forest campgrounds, and otherwise improved and safeguarded federal and state forest lands in scores of ways. On private forest lands they expanded many fold the services and facilities for which Congress had previously authorized federal expenditures — mainly fire protection and control of forest pests. In the eyes of foresters the CCC was the nearest kin to a miracle!

At the same time the President made available over forty million

The Great Depression, advent of the Civilian Conservation Corps, World War II — were among highlights of second quarter century

AMERICAN FORESTS



dollars of emergency funds to buy forest land in the East and South for national forests. This greatly advanced the objective of the Weeks Law of 1911 and provided more acres for the large groups of CCC boys. This supercharge in acquisition was recruited in these areas to work on, responsible for the bulk of the present national forest area in the eastern half of the United States.

Supplementing the CCC in forest work soon came the projects of the Civil Works Administration and the Public Works Administration.

In 1935, the Forest Service launched another of President Roosevelt's creations, the Shelterbelt Project. By the time this undertaking was transferred to the Soil Conservation Service in 1942 it had, with the cooperation of over 30,000 farmers, successfully planted 18,600 miles of shelterbelt strips in North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas. These wind-moderating plantations today are yielding values in increased crops and more comfortable living on the farmsteads concerned.

The Forest Service participated in the adoption by the lumber industry of a conservation code under the National Industrial Recovery Act and had membership on regional Code Authority bodies. It urged the pulp and paper and naval stores industries to adopt similar codes.

Emergency conditions did not rule out great undertakings. The nationwide forest survey authorized by the McSweeney-McNary Forest Research Act of 1928 was begun in 1931 and has now covered nearly all of the United States and is started in Alaska, with some regions re-surveyed after ten years. This searching inventory of the nation's forest resource, its growth versus its depletion, and the expected needs for wood, is the greatest of its kind in the world.

A second noteworthy product of this period was the "National Plan for American Forestry" prepared by the Forest Service in response to the Copeland Resolution adopted by the Senate in 1932. This "Copeland Report" embodied the best available data on the nation's forest situation, which was held to be serious in relation to private forests, and recommended a far-reaching program of public and private measures to advance forestry on a wide front.

The Forest Service aided in the preparation of the reports of the National Resources Board which

were issued in 1934 and 1935, and prepared Part VIII, which dealt with "Forest Land Resources, Requirements, Problems, and Policy."

The Forest Service made a prophetic observation in the "Hale Report" of 1935 on "National Pulp and Paper Requirements in Relation to Forest Conservation." The report said: "Expansion of the pulp and paper industry with commensurate provision for growing the necessary pulpwood would advance the national program of forestry." It has certainly worked out that way in many areas.

Reviews of the forest situation similar to that preceding the Copeland Report, but strengthened by data gathered by the Forest Survey, were made by the Forest Service, with state and industry cooperation, in 1945-46 and 1953-54.

The former showed serious depletion of old-growth timber in some localities, particularly in high-quality stands; a drain in sawtimber exceeding growth by 50 percent; slow improvement in cutting practices on large private holdings, but very little on small ownerships. For all private forest land, cutting practice on 64 percent was classed as poor to destructive.

The results of the 1953-54 review

are expected to be made known in 1955.

Meanwhile, beginning right after the Copeland Report, the Forest Service began the construction of a three-point program of the widest scope which it felt the nation should adopt to put and keep its forest house in prime order. This included:

- (1) Extension of public ownership of forest land—federal, state, and community—and development of the public forests to realize fully their multiple use potentialities;
- (2) Greatly expanded public cooperation with private owners to insure better protection of private forests from fire, disease and insects, a better credit system for forestry enterprises, sounder tax and insurance methods for forests, competent technical aid to farm and other small owners of forests in the management of their holdings, expanded research;
- (3) Public regulation of forest cuttings to insure uniform safeguarding of the productivity of forest lands.

It was hoped such a program might be considered by Congress in one package—an omnibus bill, and such a measure was drafted, but this effort failed. Some portions of the program have been enacted separately.

Much of the program was noncon-

President Dwight D. Eisenhower about to try on a smokejumper helmet during visit to smokejumper headquarters, Missoula, Mont., in 1954



troversial, but the regulation feature provoked much opposition, along with support in high places in Administration and some Congressional quarters. Several regulation bills were introduced in Congress. The Forest Service proposal evolved into a plan for regulation by each state, backed by the federal government and based on federally-specified minimum cutting practices, the federal government to step in where a state failed to act. The Forest Serv-

a joint committee. It held public hearings in every major forest region and in Washington, D. C. The Forest Service assembled a comprehensive packet of material and suggestions for the committee.

In March 1941 the Committee reported unanimously in favor of more public cooperation with private owners but stressed the need for these owners to improve their forest practices toward building up and maintaining a high level of produc-

## War Activities

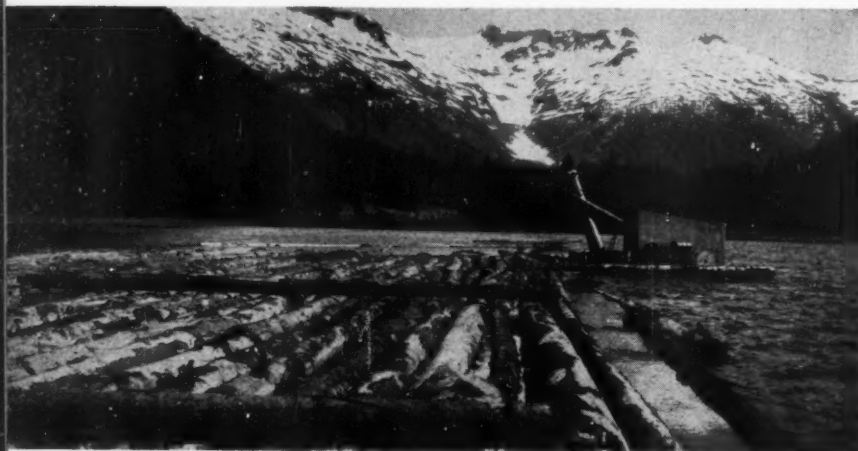
Forest Service experience in dealing with emergencies paid off handsomely in World War II.

With War Department funds, and with state cooperation, the Forest Service operated for the Army 652 aircraft warning stations, utilizing fire-lookout facilities. Again with state participation, and with emergency funds, forest fire prevention and suppression measures were intensified in strategic areas.

The Timber Production War Project directed by the Forest Service helped a host of mostly small timber operators to get equipment and stumpage whereby an estimated 8 billion board feet of wartime needed forest products were obtained that probably would not otherwise have been produced, and with the minimum practicable overcutting. The Forest Service salvaged helpful quantities of national forest sawlogs and pulpwood from ice-storm-damaged timber in Texas, using mostly war prisoners. It trained 9000 war prisoners to cut pulpwood and sawlogs elsewhere. It was able to make available for war needs most of the timber salvaged in the New England hurricane area by the Forest Service salvage project. It used emergency funds to build access roads to sources of strategic minerals and additional timber supplies.

One of the more spectacular wartime accomplishments was the logging and log-towing project directed by the Forest Service which brought from Tongass National Forest in Alaska to Puget Sound 38 million board feet of highgrade Sitka spruce logs for airplane construction. The project also provided 48 million feet of logs not suitable for aircraft building which were sawed by Alaska mills for military use in Alaska.

The Forest Service became a rubber producer, too, after the Japs sealed off the customary sources of natural rubber. Seed of a little plant resembling sagebrush, called guayule, was obtained from the Intercontinental Rubber Company, together with some guayule plantations and a processing mill in California. Aided by the technical advice of the Department of Agriculture's Bureau of Plant Industry, Soils and Agricultural Engineering and Bureau of Agricultural and Industrial Chemistry and the experience of the Intercontinental Rubber Company, the Forest Service leased land in California, Arizona, New Mexico and Texas, established nurseries to grow guayule seedlings and



This raft of spruce logs was towed from Alaska cove to Puget Sound to be made into training planes during World War II project of USFS

ice never advanced regulation as a panacea—but as one of the legs of the “three-legged stool” described above.

In March 1938, President Roosevelt sent Congress a special message on forests. “Forests,” it said, “are intimately tied into our whole social and economic life . . . and some way must be found to make forest lands and forest resources contribute their full share to the social and economic structures of this country, and to the security and stability of all our people.” The President recommended a study by a joint committee of Congress to form a basis for legislation. He pointed out that both the public and the private owners have responsibilities “with respect to the broad public interests in those same (private) lands.” He suggested particular attention to cooperation between the federal government, the states and private owners, extension and development of public forests, and to “the need for such public regulatory controls as will adequately protect private as well as broad public interests in all forest lands.”

The Congress promptly appointed

tivity of their lands on a sustained yield footing; and it recognized the principle of public regulation tied in with cooperative fire protection.

The breadth of Forest Service interest was evidenced in another way in 1936 with the publication of a searching report on “The Western Range.” This was in response to a Senate resolution introduced by Senator Norris which expressed concern over the depletion of much of the range in the West.

Years before this the Forest Service had in one way or another pointed out the need to put the unreserved public domain ranges under administration and this was done by the passage of the Taylor Grazing Act in 1934.

A noteworthy event of 1946 was the American Forest Congress, in which the Forest Service took part. It was convened by The American Forestry Association, attended by many interested groups, and resulted in a comprehensive “Program for American Forestry.” The Forest Service also participated in the AFA Congress of 1953 when this program was reviewed and brought up to date.



Water also came into its own during the second quarter century, with Forest Service researchers exploring for the secrets of the watershed

planted 32,000 acres of guayule. War's end stopped the project, but it produced nearly 3 million pounds of rubber.

The rubber project also included plantation and extraction tests of Russian dandelion and goldenrod. Both showed usable rubber content.

An echo of another wartime project was heard when President Eisenhower dedicated the new Forest

Service smokejumper headquarters at Missoula, Montana in September 1954. Among other things, the President said:

"I first heard about their (Forest Service) work when I was still in the Army. They helped to train the paratroopers who were so valuable to us in the war—their techniques and their practices and all their experi-

These children would not have had their fun in the outdoors if it had not been for the organization camp located on a national forest



ences were passed on to us, to give us some of the finest organizations that America has ever sent to battle."

Like other Forest Service activities, Forest Service research facilities were concentrated to the maximum degree on aiding war agencies. The Madison Laboratory solved a great variety of problems in adapting forest products to war uses; it designed containers for overseas shipments which gave better protection for hundreds of articles, some as large as armored trailers, and by skillful compaction saved invaluable cargo space; it piloted a test of wood waste for the making of ethyl alcohol and livestock feed; it even developed a nonmetallic spring for land mines; and in a host of other ways the Laboratory put its shoulder to the war effort.

Other research activities included such items as development of a chemical treatment of trees to increase the yield of turpentine and rosin; designing camouflage vegetative plantings; and increasing the use of protein supplements in feeding range cattle to accelerate meat pro-



The old days of "belly-high" grass have come back here through reseeding of range

duction. Aid was given the War Production Board, Office of Price Administration, and other war agencies in various surveys and technical assistance.

Besides building access roads, the Engineering Division of the Forest Service took on a large military mapping and map-making job for the Army, Navy and Air Force. They aided in adapting to military use the airborne tractor and "snow cruiser" which Forest Service engineers had

(Turn to page 82)



# The Forest Service Looks A



**DEPARTMENT OF AGRICULTURE EXHIBIT MARKING 50 YEARS OF USFS—**  
I am the Forest. Since the beginning of time man has depended upon me. And his dependence today is as great as it was in the days when his prehistoric ancestors found shelter in my trees. Among primitive peoples, as well as in this great land of America where the human race has approached closest to a full and rich life, you will find that I have contributed far more than wood alone. I am many things to many people . . . the precious watershed, food for livestock, food and homes for wildlife, a source of inspiration and recreation that can't be reckoned in dollars and cents. All these things I give as well as wood, other forest products, and jobs. Look well around you and you will see—in a small measure at least—why man and I are so closely related. I bid you welcome.







By RICHARD E. McARDLE

**W**HEN Gifford Pinchot placed about his shoulders the mantle of forest prophet he began a tradition which each Chief of the Forest Service has passed on to his successor.

Forestry is a long-time proposition, and foresters from the very beginning of their professional training are taught to look and think ahead in terms of decades. Moreover, the Forest Service as a continuing public agency, and the major one in forestry, has a responsibility to do what it can to pierce the future. The Chief of the Forest Service dare not think only in terms of the present. In forestry, more than in other disciplines, needs of the future should determine the policies of today.

The future I see for American forestry and for the forest resources of this country is neither all rosy nor all black. In the time span of our nation, the first half of the 20th Century was the dawning of forestry. We are now at the sunrise. The horizon is mottled, yet the sky is brightening. Although the clouds are fading, there are still storms ahead. Do not be beguiled by the anesthetizing effect of recent progress, or let the will to act be stifled by rosy pictures. I am convinced that this will not happen and that our nation in the long run will manage its forest resources wisely and well.

With all humility I am going to venture to do a little crystal-ball gazing. But when the Centennial of the Forest Service rolls around, I hope the then Chief of the Service will have the grace to bury these prophecies in quiet if time has disproved them; or crown me posthumously with the mantle of prophet if they are but partly verified. One thing is certain—I shall not be

around to be embarrassed when the stock-taking comes.

First of all, a brief look at our over-all timber supply. I foresee no timber famine in the future. There will be shortages, yes, but no famine. There will be shortages of particular woods, of particular quality, at particular times, and in particular places. There probably will be high prices, and wood in some respects will unfortunately be a scarcity item. But I should like to bury, I hope for all time, the bogey of a timber famine.

Perhaps the best way to sum up the future is to say that on the basis of the best information available today, it appears that there will be enough timber to meet our needs; but not our wants. With a population expected to reach 275 million by the year 2000, a 66 percent increase over the present, and with a gross national product that is expanding even more rapidly, it appears very much as though we cannot look forward to a period of timber abundance. Wood in its many forms and its chemical derivatives always will be not only desired but also needed in our society. My guess is that as our economy expands we will use more wood than we do today, but our per capita consumption will drop. This will result partly from lack of enough wood to satisfy such a large population, and partly—much as I dislike to say it—to consumer preference for competing products.

So the outlook for the consumer of wood is only fair. He will be able to find wood and wood products on the market but prices will be high and he will not be able always to find exactly what he wants. There will be a substantial unsatisfied con-

sumer demand. On the other hand from the viewpoint of the timber grower, the outlook is very attractive, especially for growers of softwoods.

With a continuation of the present accelerating trend in forestry effort, we ought to be able to about meet what might be termed our minimum needs at the turn of the century and still maintain the necessary timber growing stock. However, if our goals are aimed at maintaining timber in its present relative place in the nation's use of raw materials and stemming the downward trend in per capita consumption, it does not seem possible by 2000 to develop the necessary timber growing capacity and at the same time meet the nation's expanding needs in the interim. Although growing enough timber to maintain its present place in our economy will not tax the biological potential of our forest land, it will tax the productive capacity that seems reasonably attainable within that short period even under greatly accelerated forestry effort. Thus it is possible that about 50 years hence we may encounter some shortage of timberland, particularly if high-quality forest land continues to go out of timber production for crop farming, highways, reservoir development, expansion of urban areas, and other uses.

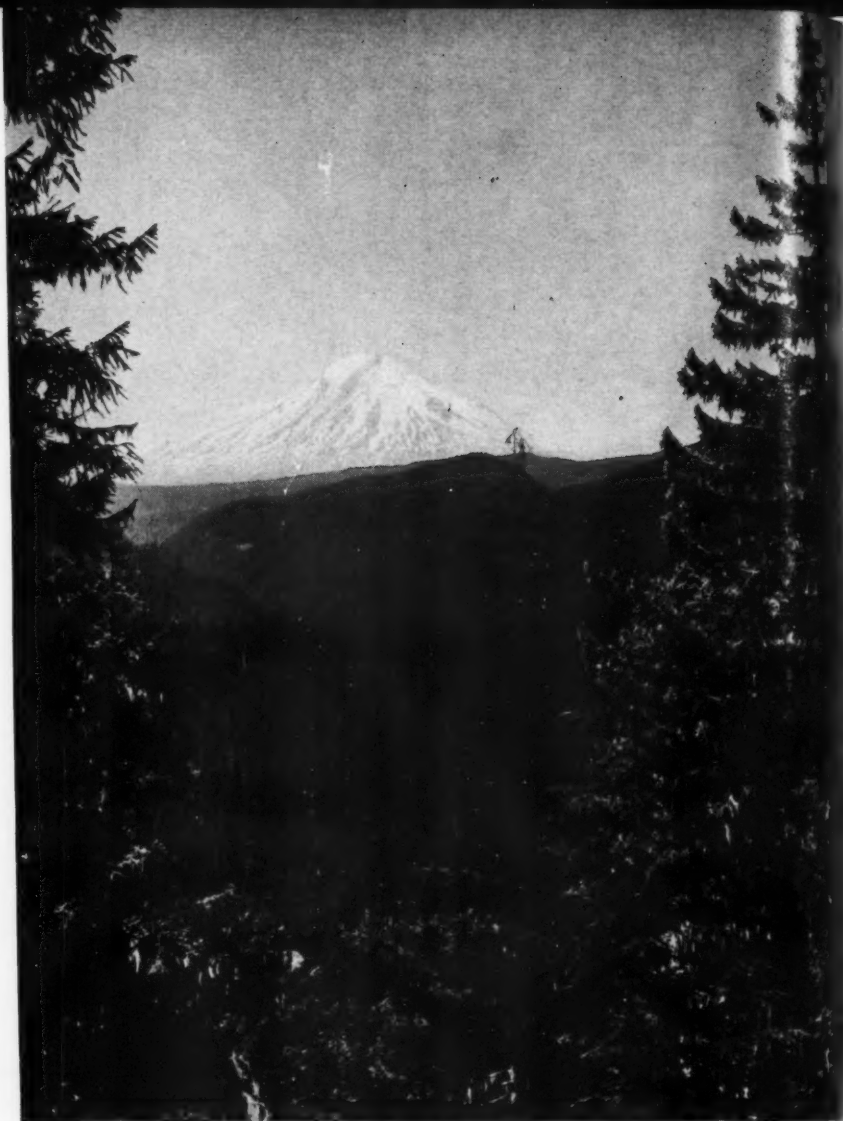
Even though 50 years from now we should be able to meet our over-all "minimum" needs, I think there will be shortages of certain species and a decline in timber quality. There may be expected to develop a fairly acute shortage of some softwoods, and our ingenuity will be challenged to make fully effective use of the steadily increasing proportion of hardwoods. The decline of softwoods and their replacement

by hardwoods is a really serious problem in many places. The average size of trees is getting smaller. The proportion of cull trees appears to be increasing, as is the proportion of less desirable species. I do not subscribe to the theory that timber quality will be unimportant in the future. The many new processing techniques that have been and are being developed may make timber quality less important than it has been historically, but quality needs will continue. This does not necessarily mean that trees must be grown to maturity and over-maturity to obtain the large sizes that occurred in our old-growth virgin forests. Quality can be substantially aided in young stands by denser stocking and effective cultural measures which contribute to even, clear growth.

As the harvesting of our old-growth forests in the West is completed, we can expect the center of forestry and timber production to return gradually to the South and East simply because the great bulk of the nation's forest land and growing capacity lies east of the Great Plains.

Fire will continue as a threat to forest productivity, but I believe that fire will be less important in our over-all problems of forest protection. Already it is causing less damage than either insects or disease. This is because we have made such splendid past progress in fire prevention and because we have the know-how to further reduce fire damage. If our present losses from insects and disease could be greatly reduced, it would go a long way toward supplying the additional growth needed to meet future timber requirements. Losses from insects and disease can be reduced by silvicultural measures and more intensive forest management. Although they will be further reduced when the old-growth forests of the West are harvested, I think we can expect insects and disease to continue to be our principal problems in forest protection.

One of the great challenges is to put our forest land to work. This means more trees per acre. It means not letting land lie idle after cutting or fire. It means a tremendous expansion in forest planting. It means better harvesting practices and better natural regeneration. Forest land cut over in recent years is being left in much more productive condition than formerly, and large lumber and pulp and paper companies and the



Well-managed Gifford Pinchot National Forest typifies forests of today

public forests now show the way. But forest owners, whose primary interest is not timber growing, must somehow be brought into the picture if we are to meet our future timber needs. It does not appear that we can concentrate our forestry effort on public and industrial forests and still supply our country's needs. Our needs are too large for the growing capacity of our public and industrial forests. The biggest forestry problem of the next half century will be to improve the condition and productivity of woodlands. Comprising more than half our potential productive forest acreage, these small holdings are owned by the millions of farm, small, and other owners, whose main interest is not timber growing.

The national forests also are entering a new era. Gone are the days when fire protection was 90 percent or more of national-forest administration, when the ranger was mainly a custodian, and when multiple use was a catchword theory. No longer are the national forests inaccessible hinterlands or mountain wildernesses. They are immensely valuable public properties, subject to ever increasing, and often conflicting, pressures for use of their multiple resources. The national forests are just beginning to enter upon the era of intensive management, and we have scarcely scratched the surface.

The national-forest system is sound and I believe safe for the future. There will be attacks upon it. There will be attempts to transfer the na-

tional forests to the individual states, or to offer the better lands for sale to individuals. I do not believe these should or will succeed, and 50 years from now at the Centennial of the Forest Service the national forests will be the bulwark of forestry in this country.

But there will be changes. There will be consolidations and blocking up. Isolated areas will be disposed of, as will areas around urban centers. I expect no substantial expansion of national forest acreage unless it is in the East where additional areas within the present national forests of the Allegheny or Appalachian Mountains may come into federal ownership.

In the years ahead we shall have to face up to the problem of whether we are skillful enough in human relations to make real multiple use work on the national forests or whether, as intensities of use increase, we shall have to designate priority use or uses for more and more areas. I think some national forests, especially on the West Coast, will become more valuable for water and recreation rather than for water and timber as at present. The population pressures of the West are reaching the point where recreational values of the national forests are coming to the forefront. There is increased recreational travel in all parts of the country. In the future recreational values may well exceed timber values in more and more places. Yet I believe the need for timber will be such that it will be increasingly contrary to good public policy to reserve substantial bodies of timber from harvesting. Wilderness and wild areas will tend to be located more in the high mountains above the commercial timberline, or in other noncommercial timbered areas.

Use of the national forests for grazing of domestic livestock may decrease as stockmen find it more economical and less hazardous to supply their herds by supplemental feeding and to make use of the larger acreage of irrigated pastures which will be developed.

Our problems of accessibility to national-forest timber should be solved in the not too distant future with the completion of an adequate access road system. The national forests will enter the era of growing and managing timber rather than disposing of virgin forests. Growth should increase. It is my earnest hope that intensity of management will continue to increase, that na-

tional forest lands after harvesting will be returned even more promptly to productivity by natural regeneration or planting and that the national forests will continue to be a source of supply for quality timber and our highly-prized softwoods.

Watershed management will more and more become the primary, overriding service of the national forests because rain and snow will continue to fall on the mountains. And the theory that the best place to control and manage water is where it first falls not only will continue to be true but also will be much more adequately recognized than it is now.

Private industrial forestry will continue to grow. It is out of its swaddling clothes and is pushing forward aggressively. Forest management by many of the large industrial owners has moved forward by leaps and bounds in the past decade. I am proud of the way some of the pulp companies of the South and other industry units elsewhere are pressing the national forests and even surpassing them in intensity of management. The leaders of progressive industry have a great challenge and responsibility to bring along with them other industry-owned lands, many of which have much progress still to make. Progressive industry, too, can help immeasurably toward solving our over-all timber supply problem when it assumes more responsibility for condition and regen-

eration of the timberlands of small non-industry owners which are cut under contract.

State forestry must and will grow stronger. It is my firm conviction that the cooperative state-federal programs in fire protection, in production and distribution of nursery stock, in extension-education, and in technical service to small owners have been major factors in strengthening state forestry. It is through the states that most future progress must be made in improving the productivity and management of farm and other forest holdings whose owners are not primarily interested in timber growing. In my judgment the states are faced with the greatest forestry challenge of the next 50 years in dealing with that problem. And deal with it we must if we are to meet our timber needs of the future. One of the prime objectives of the Forest Service over the past years has been to strengthen state forestry. State forestry departments and the Forest Service should move forward hand in hand.

Now I want to write my closing words to the 10,000 men and women of the Forest Service. No longer is the Forest Service unchallenged as leader in the field of forestry. The pioneers of the Service were so successful in getting a measure of acceptance of forestry in America that others have arisen to challenge us

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Chief Forester Richard E. McArdle and map showing extent of his "domain"







Cooperation is keynote here as ranger and a grazing permittee talk over knotty range problem

AS it reaches the 50 year-mark and heads into its second half century, the Forest Service of the Department of Agriculture finds itself face to face with the most formidable challenge of its long career. That challenge, as the Service moves steadily from a custodial to a full management status on its own lands, is how to achieve optimum results from a variety of uses on 181 million acres of national forests in addition to extending a helping hand to state and private agencies and the carrying on of needed research activity. All this in the face of a rapidly-increasing population and the resultant pressures on land that always accompany such increases.

That the Service is eagerly accepting a challenge that has been multiplied many times since the era of Gifford Pinchot and his stalwart band, should be a great source of satisfaction to the American public. Of all our government agencies, the Forest Service represents the nation's first line of defense in the perpetuation and wise use of our renewable resources. It has pressed steadily for improved management of its own lands and must press harder. It has extended a helping hand to state

and private agencies and must continue that work, in cooperation with the states, if our private lands, especially small woodland holdings, are to be brought up anywhere close to the peak efficiency that exists today on our larger industrial holdings. It has carried the major research load in the past and more-over must increase that effort if our protection problems — one of the most serious being the control of tree insects and diseases — are to be met.

Fortunately, the year 1955 finds the Service just as dedicated, just as service-minded and much more competent than ever before in its history. Fortunately also for the nation is the fact that this fine aggregation today is complemented by the programs of existing state agencies and by a phenomenally efficient industry effort that has marked the last fifteen years. How the Service's programs have spread outward and downward into the states and onto private lands is explained elsewhere in this issue. How conservation-type organizations and groups have grown from a handful 50 years ago to literally thousands covering a myriad of different fields is also the subject of a full-length article. Our purpose here

will be more of an attempt to pinpoint what many experts think should be the major goals in forestry today, the overall renewable resources picture as it exists in the year 1955, and finally to take a look at our Forest Service of today—to see how it should fit in with all the other work now going on in state and private channels.

In addition to the task of working with the states and carrying on necessary research, Chief Forester Richard E. McArdle sees one of the biggest jobs in forestry as being managerial in nature—how to really do a land management job on both the public, state and private forests. The big goals here as outlined in AFA's Program for American Forestry are: 1) to meet the essentials of forest protection; 2) to improve the national timber crop in volume and quality to a degree sufficient to wipe out all deficits and build up a reserve; 3) to obtain the maximum of economic and social services from our forests by realistic application of the principle of multiple use in their management. And here, as AFA's Program points out, "The multiple use of land involves many adjustments between conflicting uses and benefits. The grazing of watersheds



As the Forest Service moves from a custodial to a land-manager status

on its lands, it faces the greatest challenge in its 50-year history—

how to intensively manage more than 180 million acres of forested area

# WHAT'S ON THE HORIZON?

By JAMES B. CRAIG

and forest-producing lands by domestic livestock or the propagation of game animals often involve such conflicts. They can be resolved only by intelligent administration which must be charged with responsibility for determining the priorities in use on any given area."

Obviously, the task of carrying out this important mission will place a great premium on skilled technicians who are also adept at the art of getting along with people. This will be true in both the public and larger privately-owned forests. In the face of a greater variety of uses by more and more people, the national forests during the next 20 years will be a proving ground to determine once and for all if multiple use will really work. Our watersheds, our great timber stands, and all the uses of land, are inextricably tied in with this great experiment in land use. Other nations have faced similar problems at crucial periods in their growth. Some have failed.

As to the overall resources picture, renewable and otherwise, Fairfield Osborn, of the Conservation Foundation, probably summed it up as well as anyone in accepting the Roosevelt Distinguished Service Medal in 1952. On that occasion Dr. Osborn said:

"At the time Theodore Roosevelt was elected president we were producing about 15 percent more resources than we consumed. Today, by contrast, our production is running about 10 percent short of consumption, and this deficit is increasing year by year due to the accelerating rate of our industrial processes induced in part by the increasing demands of a steadily growing population."

Nor can the United States rest easy in the belief that these deficiencies will be supplied by foreign countries, Dr. Osborn said. Other coun-

tries have rising populations too—increases that are creating an intense form of nationalism and plans to hang onto their resources for their own use. The only sure answer, Dr. Osborn thinks, is to do a good conservation job in our own country. And we are not as yet doing the type of job that will insure the future welfare of the nation, he thinks. Although the overall position of our forests indicates that replacement growth now gives promise of catching up with annual drain, the fact still remains that in one category, namely sawtimber, we are using up that resource at a rate considerably greater than its annual growth. That

In many places the ranger must still travel with his horse and pack outfit



the general sawtimber picture leaves much to be desired is verified in large degree by AFA's own Program for Forestry, the Paley Report of several years ago and the more recent Stanford Report sponsored by the Weyerhaeuser Timber Company.

"We Americans can solve our conservation problem, which means future adequacy of our resources, including that of foreign supplies, if we really wake up and give this vital subject the attention it deserves," Dr. Osborn said.

In appraising the general resources picture it immediately becomes apparent why the men and women of the Forest Service have a vital role to play in our resources future. With the great watersheds, timber stands and many other renewable resources under their jurisdiction, the very economic stability of the nation in regions where water is already a vital problem may well depend on how competently they do their jobs.

The major job is a management job—the task of making our national forests the greatest conservation showcases in the history of the world—areas where the watersheds, timber and other renewable resources will be managed intensively in terms of decades and even centuries. And in view of the increasingly-potent effort being made today by both state and private management, there are those who see the Service carrying on a greater and greater intensive program on its lands—a program that will remain untouched by the vicissitudes of economic letdowns—which are merely fleeting moments in the life of a watershed or a tree of sawtimber size.

Unfortunately, there are those in our country who do not completely understand the magnitude and importance of the management job that needs doing today on our forests—both public and private—its

importance in terms of future generations. Partly, this is due to the philosophy of preservationism that has gripped millions of people in recent decades, especially in the East. Partly it is due to the necessary fanfare that accompanied the great Pinchot crusade of 50 years ago when the first chief forester and his crusading knights reversed the renewable resources tide in America. Much of this spirit has been carried over into our present era which is a good thing except that many people sometimes forget that both Pinchot and Theodore Roosevelt were genuine "wise use" conservationists—men



Forest Service's "show me" trips have proved popular with the public



Winter work on the national forests includes snowshoe trip to observation points

who believed in prudent use of resources and who deplored waste in any form. Furthermore, on the basis of the statements of both men at the height of their power they were basically cooperators—men who believed in enlisting the voluntary support of all groups, as opposed to any form of coercion.

Witness the address by President Roosevelt at the American Forest Congress of 1905, where he forcefully declared, "(Our) policy is one of helpfulness throughout, and never of hostility or coercion toward any legitimate interest whatever." And again in the same address, "I do not in the least underrate the power of an awakened public opinion; but in the final test it will be the attitude of the industries of the country which more than anything else will determine whether or not our forests are to be preserved. It is because of their recognition of that prime material fact that so much has

been accomplished, Mr. Wilson (James Wilson, Secretary of Agriculture) by those interested under you and in other departments of the government in the preservation of the forests."

Gifford Pinchot's annual report of 1903 as reported in the February, 1904 issue of *Forest Leaves* is further proof of the constructive, positive approach by these two men. Said Mr. Pinchot, "Decidedly the most important development of the year in forestry has been the awakening of the great lumber interests to the necessity for practical forestry and the hearty cooperation they have begun to give to the efforts of the Government for forest perpetuation."

It is this spirit of cooperation that Chief Forester McArdle is endeavoring to strengthen in the conservation movement of today.

"We don't want any prima donnas in conservation," Chief McArdle told us recently. "It has been a long time since the Forest Service and The American Forestry Association were among the few major forces in forestry. ('Conservation's Ever-Widening Stream,' page 28). Conservation has grown big and is growing bigger. The great need today is for team work and the effective conservation leader of the next few years will be the man who can work harmoniously and well with all the other groups and all the other people who are involved in the various phases of the same problem.

"In my own Service, for instance, we are being challenged and this is a healthy development for resources management. We are being asked, can we make multiple use work on

a big scale or can't we? True, we have made it work in many cases but today we are being asked if we can make it work on a broad canvas involving the whole forest pattern. Now, we've done a lot of talking about multiple use in the past and today we are faced with the job of applying that talk to the land itself. Can we do it? We've got to do it. And we will do it. We are going to harmonize all these various uses on the forests. To do that will depend on how well we select our men, how well trained they are, how completely and efficiently they do the job, and finally, how skillfully they deal with other people. And you will note that I still put the so-called public relations phase of this program last on the list. Certainly, it's important but having trained, competent technicians on the land doing the job is more so and always will be.

"The big job we have today in this country is a management job," the Chief continued. "That's our big challenge and it is one that the Forest Service accepts."

What sort of a Service represents the public in the 10 regions today and how do they compare with the Service of previous years?

One point stressed by the Chief was that the Forest Service of today is once again a new and young service. At the conclusion of 50 years, one full employment cycle has been completed. That's why the Chief has been spending considerable time—as much as he can afford—in meeting the members of this young service, their wives, and their children. What is his evaluation of these men?

"Well, they are no more dedicated

than originally but I would say they are just as dedicated," the Chief replied. "Technically, they are better-trained than ever before. We can thank our forestry schools for that."

How does the Forest Service mold the great spirit of service that characterizes the organization? How does it hold its men despite the increasing number of lucrative offers that come to its foresters from expanding private forestry programs?

"Well, we don't preach much in the Service," Chief McArdle said. "I've always thought that the Forest Service is like the measles; you catch it. I believe it grips the imagination of young men who like to feel they are doing something worthwhile in terms of the whole nation. It makes them part of a big picture. This is important to certain types of men—types we like to have in our organization. People of this type grasp the overall picture fast. They catch it from the older men. It creates a feeling of solidarity. Personally, I tell these young men that they are living in the best time in history as far as we are concerned. The next 20 years are going to be tremendous years in the development of this resources story. I know that I'm per-

sonally glad that I'm going to be living through it."

Are the men in the regions behind their chief as he outlines the major management job? Are they accepting the challenge?

The answer is an overwhelming yes as reflected in reports from the regions published elsewhere in this issue and in comments by young Service men contacted in the last several months.

"McArdle has the right slant on these things," one young ranger told us recently. "Sure, we can be tough as Marines if the occasion calls for it and we can blow our own horn, too, but the emphasis today has got to be on good management and cooperation. We should know. We meet the public and more and more of it is coming onto the forests. McArdle is a cooperator. He'll go more than half way with anyone on that score. Another thing you've got to remember about him is that he was a research man before he took on the job of working with the states as assistant chief. That's a pretty good combination I'd say — cooperation and scientific management."

One hopes that the young men of today's Forest Service will always be

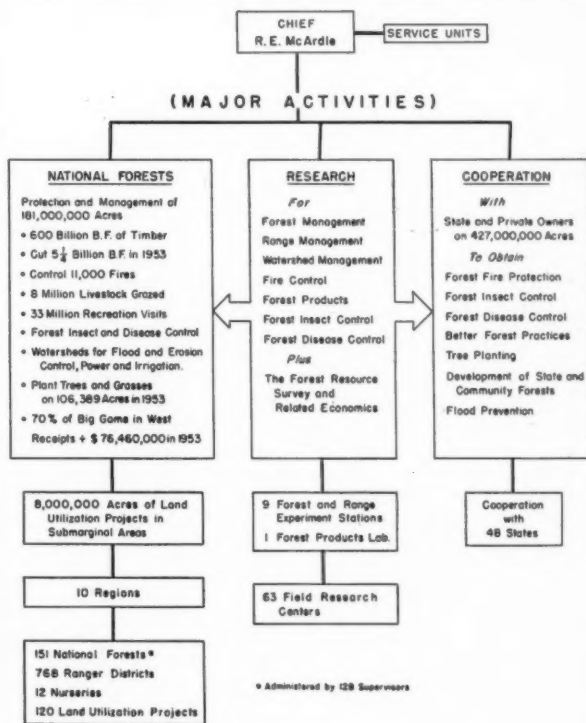
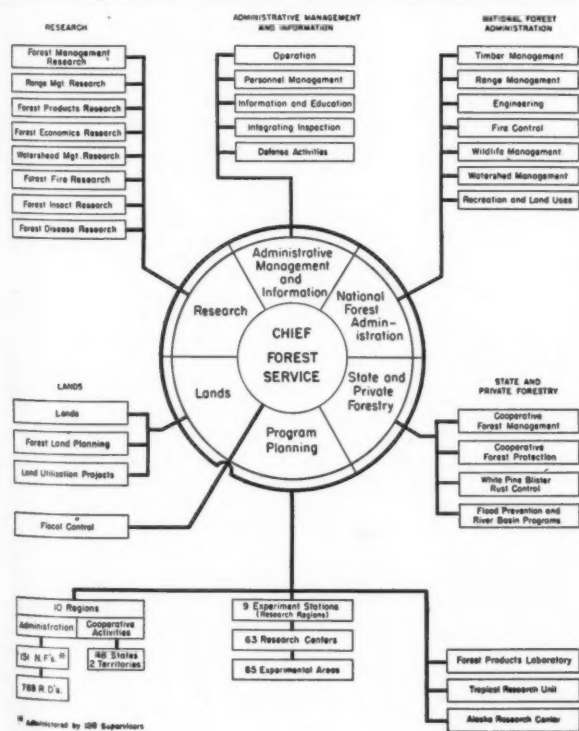
"tough as Marines" in fighting for what they think is right and will always "blow their trumpets" in their quest for resources abundance in America. But our country is also fortunate that these young men see themselves more as "land managers" than as "Marines" in 1955, as "technicians" rather than "trumpet players."

Why is this true? Consider once again AFA's own Program for American Forestry which the men of the Service helped to draft and enact. In this program the Forest Service charged itself with the task of stepping up the fight against insects and diseases and the ravages of forest fires. It charged itself to maintain adequate timber inventories for each management unit; to provide for the construction of more timber access roads since any management program is no stronger than its transportation system; to accelerate the preparation of timber for sale; to provide for adequate regeneration of forest lands; and to take prompt action in emergencies created by disease epidemics, major fires, large-scale blowdowns and similar disasters. This in addition to its tremen-

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## ORGANIZATION OF USFS

## MAJOR ACTIVITIES





Eighty years ago, The American Forestry Association was the only national conservation organization. Today, literally scores of such groups are dedicated to the wise use of our resources

# CONSERVATION'S Ever Widening Stream

By C. W. MATTISON

A VISITING professor at the Cornell Forestry School once told us, "In 1905, the Forest Service in the U. S. Department of Agriculture, was the biggest toad in the conservation puddle. That was conceded even by its staunchest critics. Oh yes, there were some tadpoles swimming around—a few states with forestry departments, several embryo forestry schools, some other federal agencies, some private fire protective associations, and a handful of private conservation organizations led by The American Forestry Association."

The speaker went on to tell us about Pinchot and his young men and how they had forged the policies which kept the Service out in front; how they set the standards which even today are a part of Forest Service tradition. He described that new breed of men, foresters, who were willing and anxious to work for an outfit that had taken the conservation leadership. These men, all young, were given responsibility and authority. They met the test.

We, as forestry students, learned how these men protected the national forests and then turned to an even greater problem, the protection of privately-owned timberland. We were told of the results, the Weeks Law of 1911 and the Clarke-McNary Act of 1924. Those laws were the basis for the progress America has made in getting most, but unfortunately not all, of its private forest land under protection from fire.

The professor described the conservation battles—in the West and in Congress—which these young foresters had fought and won. Conservation was on its way, led by a group of dedicated men, the United States Forest Service.

But what about those "tadpoles." Were they prospering? They were. Immediately after World War I there was a noticeable increase in their numbers—more forestry schools, more state forestry and fish and game agencies, more industrial groups with an interest in conservation. As an offshoot of The American Forestry Association, state forestry associations began to increase. The Society of American Foresters, the foresters' professional society, was gaining members and prestige. The Western Forestry and Conservation Association had appeared as had the Southern Pine Association. In the states, more and more forest fire protective associations appeared. The Chamber of Commerce of the United States had its Natural Resources Department. The National Audubon Society had been formed. The state foresters banded together in their own association. The American Society of Range Management was attracting foresters as well as other technicians to its membership rolls. The Committee for the Preservation of Natural Conditions, now the Nature Conservancy, had been organized. The National Park Service had been established in the Department of the Interior to be followed

by the privately organized and financed park protective group, the National Parks Association. The Izaak Walton League of America, American Nature Association, The American Tree Association, American Nature Study Society, all of them active today, were in the conservation puddle. The tadpoles were beginning to multiply.

Farsighted men in the Forest Service saw strong competition ahead, not with fear, but with anticipation. Competition meant progress in conservation—just as it does in other pursuits. And progress was what they wanted. Some saw opportunity outside the Service and changed their conservation careers accordingly, their decisions often working to the ultimate advantage of the conservation cause.

Now right at this point, compare the number of practicing American foresters in 1905 with those of today, 1955. By 1905, those few forestry schools mentioned elsewhere in this article had graduated a total of 114 foresters. Most of them—in fact, practically all of them—were employed by the Forest Service.

By 1955, 35 American forestry colleges had granted more than 21,000 undergraduate degrees and 4000 graduate degrees. Of those 21,000 foresters, more than 15,000 are employed in the forestry profession. How are they employed?

Late in 1953, the Society of American Foresters and American Forest Products Industries, Incorporated,



made this estimate of employment of professional foresters in forestry and related fields in the United States:

Federal, all agencies, 4800; state, all agencies, 1500; county and municipal, 200; education, including extension and institutional research, 700; private (including industrial), 6200; unclassified, including allied fields, 1600; Total, 15,000.

Think about those figures for a moment. Of the 4800 foresters in government employ, about 2700

the indirect expenditures, the total undoubtedly exceeds a quarter billion dollars. That kind of money means lots of competition in forestry. It's good for forestry and it's good for the nation!

Fish and game management is another big part of the conservation picture today. In 1905, 36 states had game commissions of one kind or another. However, few were really effective.

Today all states have fish and game departments and today all are engaged in wildlife management as compared to wildlife protection which was the major activity 50 years ago. The Wildlife Management Institute estimates total state and federal expenditures on wildlife in 1954 at \$100,000,000. And that's exclusive of the money spent by about 50 colleges giving training in wildlife management. Another indication of progress in resource conservation!

Conservation in the states is an intriguing picture. Exclusive of state departments of agriculture and state agricultural experiment stations, Erle Kauffman, in his *Conservation Yearbook* for 1954, lists over 200 official state agencies with major conservation responsibilities. Perhaps state departments of agriculture and state agricultural experiment stations should also be included. Their programs depend to a large degree upon the careful use of all of the natural resources. Then, too, many of them are directly involved in straight conservation activities as distinguished from strictly agricultural pursuits. Add all of the official state agencies together and there are at least 300 involved in conservation today. And that does not include the forestry schools, most of them at state educational institutions, which number more than three times as many as in 1905. Every one of these state agencies is making significant contributions to conservation of the natural resources.

But hold on another minute. There is still more to the state conservation picture. Privately organized and financed organizations, active in the conservation field at the state level number more than 200. Add to these the local groups—sportsmen's organizations, service groups, schools, colleges, farm organizations, women's groups, etc. with an active interest in conservation—and the state figure becomes astronomical. They play a big part in local, state, and national conservation programs.

What of private national organizations with conservation programs or interests? Think back once again to 1905 and those "tadpoles" in the conservation puddle. Mighty few were of national scope. But during the 50 subsequent years, something has changed. National organizations have multiplied and prospered. Today the author counts some 60 with active conservation programs. How many can you add to his list?

These groups are proof of progress in America's conservation effort. Their combined potential strength has not yet been felt.

Is industry in the picture? You bet it is. It pays a goodly share of that quarter billion dollars spent on forestry yearly. However, business and industry do more than that.

The Advertising Council reports that in 1953, American business contributed 8 million dollars to the Smokey Bear forest fire prevention program, a joint undertaking of the state foresters, the Forest Service and the Council. Incidentally, that 8 million dollars should be added to our estimated annual forestry expenditures of a quarter billion dollars.

Business also helps finance keep America green programs and tree farms programs through organizations such as state forestry departments, local forest industry groups, and American Forest Products Industries, Inc., the educational arm of the forest industries.

Sears, Roebuck Company promoted better forestry in both issues of its 1954 catalog for the South. The Sears, Roebuck Foundation has shown consistent interest in the natural resources and has contributed to the conservation of them.

International Paper Company, in addition to its direct forestry activities, distributes many thousands of forestry booklets for school use yearly. Union Bag and Paper Corporation spearheads its forest conservation program by a pace-setting school forest project with 50 forests in as many Georgia counties. Seaboard Air Line Railroad promotes forestry in the vocational agriculture high schools along its entire system.

Now look at conservation in the federal government. In 1905, there were few federal agencies other than the Forest Service with any great influence—or interest—in conservation. Today there are more than 50. Perhaps that figure raises a question about all of the author's statistics. So check 'em yourself. But when

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Headquarters of the AFA, 919 Seventeenth Street, N.W., Washington, D. C.

work for the Forest Service, United States Department of Agriculture. True, that continues the Forest Service as the largest single employer of foresters in the U. S., perhaps in the world. However, let's go a step farther and look at forestry expenditures by these combined groups. From rough checks of known annual forestry expenditures in comparison to the number of foresters involved, \$15,000 per forester is a reasonable average total annual disbursement for those 15,000 American foresters. Based on those rough calculations—and they are admittedly rough—225 million dollars a year is being spent directly on forestry in the United States. Adding to that



**T**HOUGH forestry traditionally has been "man's work," women, too, play an important role in the operation of the U. S. Forest Service. Lady lookouts, for instance, have proved to be as proficient—if not more so—as their male counterparts.

As of February 1, 1955, there was a total of 1715 women on Forest Service rolls—176 in the Washington, D. C. office and 1539 in the field. Of this number seven in the Washington office are technicians and 12 in the field are grouped in this category. This means they may be economists, botanists, entomologists, range management specialists, chemists, wood technicians, etc. The rest perform clerical tasks. Those who "man" the fire towers are considered part-time employees and are not included in the above figure.

A case that illustrates the type service being rendered by women is that of Dr. Eloise Gerry, one of the

Orema B. Beals, lookout at Squaw Mountain station, Arapaho National Forest, Colorado

# *Women in the Service*



Fashions have changed since 1923, but the lady lookouts are doing the same good work

"Invaluable," is the way one high forest Service official has described the work being done by 1715 USFS women

first women in the United States to make a career of forest products research, who retired recently after more than 44 years of government service at the U. S. Forest Products Laboratory in Madison, Wis.

Dr. Gerry was the only woman member of the original staff of scientists that opened the Laboratory there in June 1910. Since that time her work, and the many technical publications she has authored have gained her international recognition.

Almost from the beginning, her research on the physiological and structural makeup of wood resulted in significant data that benefited the entire industry.

Dr. Gerry, with the aid of a microscope studied the inner workings of trees. Her findings about the cells that constitute the fibers, pores, rays, ducts, canals, and other minute parts of the living tree have been applied in the naval stores industry, the preservative treatment of wood, in pulp and paper processes, and in evaluating the effects of growth conditions on the strength and other characteristics of wood.

What Dr. Gerry describes as her most interesting period of research started about 1915, when she pioneered microscopical investigations of the turpentine pines of the South—the world's major source of turpentine, rosins, and their by-products.



All decked out and ready for work is lady lookout of more than 30 years ago



Gretchen Farber wearing uniforms worn by lookouts on St. Joe National Forest

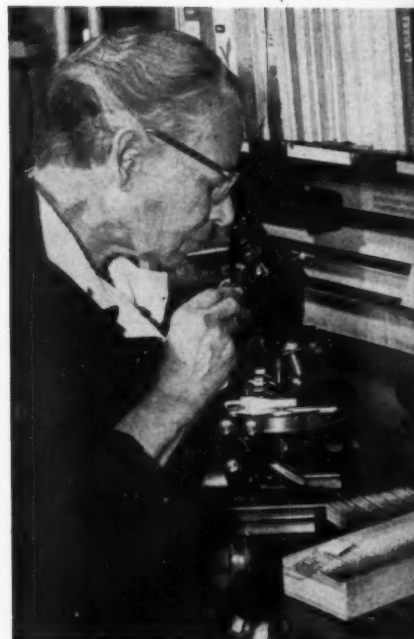
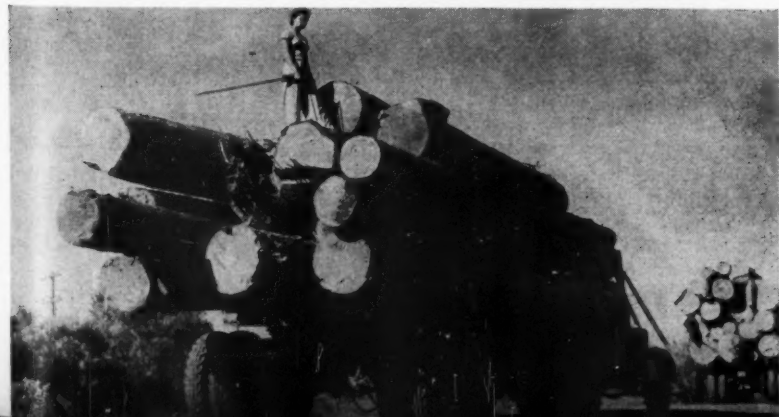


Frances Flick, a bibliographer in USDA library, at work on bibliography of *Economics of Forestry*. Miss Flick is graduate forester

The ladies lend a hand on the fire line during the danger season



A lady log scaler atop load of logs in the Whitman National Forest



Dr. Eloise Gerry at her microscope in the U. S. Forest Products Laboratory





FOR nineteen years I have held a key position in the Forest Service. Trouble is, no one has ever recognized it as key to anything but the cookie jar. So I shall place an invisible jeweled crown on the head of each unpaid, unsung woman who wears the label, "Ranger's Wife."

Until the recent fire seasons in Region 3, I used to get a spark of excitement in the news that a single snag was afire in the forest. A ten acre fire caused a dread that set my blood pressure soaring. But the stark reality that a thousand acres of my forest can go up in smoke within an hour, has me flabbergasted. Drought, greater use, and all the factors built up since the last war to contribute to the appalling fires, have whet my fire prevention efforts to new heights in my occupation as a ranger's wife.

Times are changing. I'm afraid the rangers' wives must eventually be content with less of the actual participation in the work plan of their husbands' districts and put their conservation fervor into Girl Scouts, PTA, Women's Clubs, and all the other organizations that need the willing hand of those concerned about our natural resources.

During a good share of my nineteen years, I sat out in the mountains with an occasional permittee and his cattle, 50 miles from town, and listened to the shrill belch of that long-necked monstrosity hanging on the wall that some people refer to as a modern convenience. To me it always said, "Lookout reporting, smoke on north side of Pine Mountain." I held a naked dripping infant

in one arm, perched the receiver between my chin and shoulder, and scribbled directions on the scratch pad, to be relayed to a busy ranger.

Years of fire seasons I have rounded-up horses afoot in boulder strewn pastures, filled canteens by dozens, cooked beans and biscuits for weary fire fighters, bicycled over the country during war years in search of crews, held the phone until the night wore thin, and even manned the lookout tower while the regular man took off to see his new-born son.

In 1950, the Lincoln Forest of New Mexico gave me a couple experiences I had never had before. The season started on Sunday about six weeks before the regular fire crew usually goes to work. My husband, Ed, who is ranger on the Ruidoso District, was being badgered by his three children to go to a movie (17 miles on a dirt road). He had been riding in his high country the previous week noticing the lack of moisture, and sitting with his back to a high wind all day. A typical fire season expression seemed to gloom-up his countenance and throw his head from side to side in a violent "No" gesture. All he needed was a telephone call to verify his premonition. It came at 3 p.m.

"You sure it isn't dust that you see?" he bellowed, not very skeptically, into the mouthpiece.

Five minutes later, smoke was billowing over the hill into the station pasture. My husband sank his teeth into a juicy bit of action by phoning sheriffs of two nearby towns for all available men. Then he shoved a list into my hand and said, "Here, you call the rest. I'm going."

A lookout tower had to be manned. A couple more towns might have men, grocery stores had to be opened and supplies ordered for 200 men, the supervisor's office called and portable camp ordered. By 7 p.m., this rough mountainous country had been emptied into a hard-fighting, organized line, and fed a hot meal by a hastily set-up kitchen.

This ranger's wife mumbled into the phone at 1 a.m. "The soldiers will be at the cross-roads at 5 a.m. Now Charlie, you give Ed that message. I'm going to bed."

At 2 a.m. I resigned myself to the all-night phone vigil when Ed called to ask, "What was the message I was supposed to get?"

There was one part about this  
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## OCCUPATION—

# *Ranger's Wife*

By DOROTHY GRAY GUCK

WITH the population of the United States increasing at an unprecedented rate, and with more and more Americans spending their leisure time in the outdoors, recreation has become big business on the national forests. In fact, more than 40 million persons this year will visit the national forests to hunt, fish, swim, camp, picnic, hike, canoe, ski, ride horseback or for just plain spiritual refreshment.

While the national forests are unmatched in the diversity of their appeal, this very factor is causing the Forest Service a number of headaches in providing the public with all the services and facilities it requires in its holiday exodus to the forests. Funds to keep existing facilities in repair, to expand inadequate accommodations and to construct badly needed new paths, trails, campsites, picnic tables and other conveniences have, in most cases, been insufficient to do the job.

Vacationers critical of present facilities on the national forests must realize that more money is needed to improve the service.

There are a great number of recreation facilities on the national forests where, because of lack of funds, no improvements have been made since the accommodations were constructed by the Civilian Conservation Corps.

To many Americans, the tranquillity—the spiritual refreshment—that can be found in nature is the forest's greatest feature

## Recreation on the Forests

Members of Low Echo Girl Scout Camp enjoy themselves at lakeshore on the Rogue River National Forest in Oregon

Proper safety measures keep camping, enjoyed by millions, one of the most popular forest uses





Pleased with her catch, this distaff angler displays a big one that didn't escape the hook



This 207-pound wild boar, one of many animals hunted on the forests, was bagged on the Cherokee National Forest

A congenial group of horseback riders enjoys the beautiful scenery of the national forests on an AFA-sponsored Trail Riders of the Wilderness expedition







**A group of skiers on the Nicolet National Forest in Wisconsin. They are following the Anvil Lake Ski Trail which here passes through virgin stand of timber**



**Canoeing, an ever popular water sport. This scene is on Duncan Lake near the start of the portage to Rose Lake, on the Superior National Forest in Minnesota**



# NATIONAL FOREST



# RECREATION

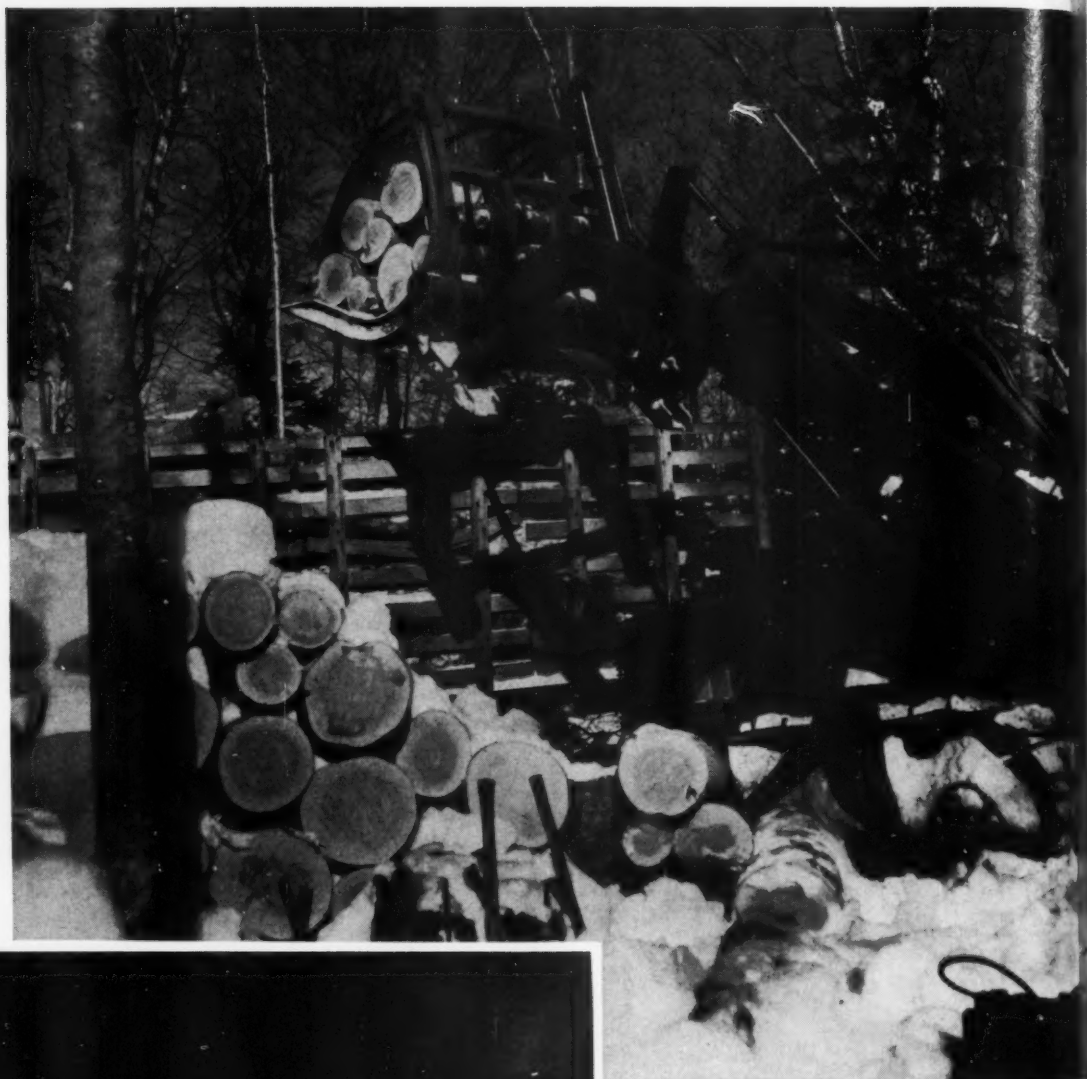


## FACILITIES AND AREAS

State	1953 Recreation Visits No.	Camp & Picnic Areas No.	Winter Sports Areas No.	Resorts No.	Wilderness, Wild, Primitive & Roadless Areas	
					No.	Acreage
Alabama	92,200	7	—	—	—	—
Alaska	179,857	71	11	8	—	—
Arizona	1,385,047	141	8	34	9	710,673
Arkansas	544,402	32	—	3	—	—
California	5,353,906	1,083	48	142	18	1,536,652
Colorado	3,624,695	372	20	36	11	786,033
Florida	548,935	20	—	2	—	—
Georgia	504,400	16	—	—	—	—
Idaho	1,459,212	380	15	29	3	2,966,491
Illinois	305,300	14	—	—	—	—
Indiana	88,145	1	—	—	—	—
Kentucky	121,400	4	—	—	—	—
Louisiana	85,550	2	—	—	—	—
Maine	13,650	1	—	1	—	—
Michigan	987,870	87	3	4	—	—
Minnesota	685,115	184	1	13	3	814,456
Mississippi	223,300	6	—	—	—	—
Missouri	577,641	16	—	—	—	—
Montana	1,165,908	218	12	38	8	1,823,427
Nebraska	29,000	1	—	—	—	—
Nevada	181,825	39	5	—	—	—
New Hampshire	691,756	15	10	6	—	—
New Mexico	1,450,178	119	5	4	6	939,036
North Carolina	1,609,760	47	—	4	1	7,400
Ohio	59,087	4	—	—	—	—
Oklahoma	6,000	1	—	—	—	—
Oregon	2,414,312	500	20	35	8	715,908
Pennsylvania	885,000	8	—	—	—	—
Puerto Rico	143,880	2	—	1	—	—
South Carolina	292,330	8	—	—	—	—
South Dakota	1,519,170	49	2	5	—	—
Tennessee	1,082,655	16	—	1	—	—
Texas	190,800	8	—	—	—	—
Utah	3,280,885	233	14	21	1	240,717
Vermont	92,500	4	—	—	—	—
Virginia	413,495	14	—	—	—	—
Washington	1,763,817	414	19	21	3	926,091
West Virginia	333,935	49	—	—	—	—
Wisconsin	290,040	50	4	2	—	—
Wyoming	726,092	162	11	51	8	2,301,383
Totals	35,403,050	4,398	208	461	79	13,768,267

By Tom Culverwell





Photos by Leland J. Prater

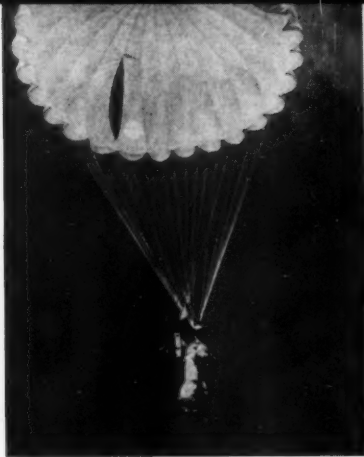
Big forest equipment doing big jobs has a dramatic quality—like this Drott Skid Loader on an AC HD-5 tractor loading hardwood bolts on Bob Swaine's logging operation at East Andover, Maine



The helicopter is becoming one of the most useful tools in forestry. This one is used on California national forests to scout fires, transport fire fighters, and to tote hot food to the men on the fire line



Rangers still hoof it, but today's Smokejumpers are ferried to the fire in a transport plane. Secret of their success is hitting little fires fast



Snow used to slow up a ranger. But today some use modern snow cruisers

Fires used to get a big head start when packtrains were the principal "fire engines" in the forests. Today they supplement speedier methods.

Even the packhorses get a lift today thanks to road nets and tank trucks



## • TRANSPORTATION

# The Evolution Of Equipment

**T**RACING the development and growth of forest tools and equipment since 1905 provides a good yardstick for measuring forestry advance in 50 years. In 1905 the handful of crude tools used by forest rangers was probably worth a few thousand dollars. In 1953 all equipment used by the Forest Service on the national forests was evaluated at 34 million dollars, and capital investments, which include forest roads and trails (excluding public domain lands), were pegged at 650 million dollars. This is big business, particularly in western national forests where Region 5 (California) owns equipment evaluated at seven million dollars and Region 6 (Pacific Northwest) five million. Big equipment for fires, road building and maintenance puts these two regions at the top of the equipment heap. Even so, the South's Region 8 is closing the gap fast and now boasts almost five million dollars worth of forest equipment. Other regions average around three million. This big equipment pool managed by the Service's Equipment Man-

agement Section clearly demonstrates that conversion of impenetrable forests to working forests for the purpose of serving man's needs is largely the story of roads and the men and equipment travelling over those roads. No forest management plan is any better than the men, arteries of travel and the tools that make it work. To the public at large, the men of the Service are well known and respected. Not so well known, however, is the fact that every advance made by our foresters has been accompanied by companion advances in the development and use of new equipment. This development has been continuing without pause since 1905 and right now there are dozens of equipment ideas on the drawing board that will further modify, improve and speed-up good forest management. Purpose of the picture story on the following pages is to show the evolution of forest equipment in 50 years and to demonstrate why this equipment is one of the pace setters in placing more and more of our forest domain under intensive management.

## • COMMUNICATION



This is the way they used to do it. Lookout with heliograph (two mirrors in use). Buckskin thong holds the shutter open

But a radio-telephone today keeps Lookout Billee Webb in touch with mobile fire fighting units and a spotter plane in the air



Up-to-date intelligence is all important in normal forestry operations today as well as in fire fighting. Portable radios as used by this ranger are now standard equipment on the forests



## • HAND TOOLS



In forestry as in the infantry, the shovel is the one piece of indispensable equipment

When rangers don't have the right tool they invent it. This is Ranger Pulaski's fire tool



The axe has assumed dozens of varieties and shapes. Here are some early experimental types







All ranger trainees take a stiff course in fire fighting. These men are using a standard back pack pump

To put water on a fire you have to get it there. Modern tractors help pave the way



A hose pack contains 300 feet of hose. These men have attached hose to pump, are ready to lay first segment

Good men and good equipment spell good results. This ranger tank crew wheeled into action fast on Algoma fire



## • WATER EQUIPMENT

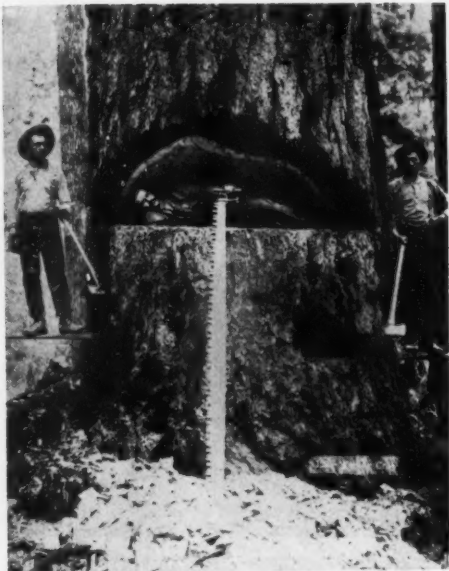
### • FIRE LINES

A furrow around a fire, whether by a plow team or a cat, is standard procedure

Tractor-plow as used on Ocala (Florida) Forest fire line is effective fire tool

Fire line fighting got its biggest single boost from the crawler-tractor





These early Douglasfir loggers never saw a power saw, would have scoffed at it if they had

## ● FELLING



Like the mechanical tree planter and the cat, the power saw revolutionized forestry. One problem is its care and use



Just the same, champions of the crosscut still use it, and well. These buckers are in Wisconsin's Nicolet Forest

## ● SKIDDING

Log skidding has had its own evolution in the search for improved methods. The 12-ox team was an early and effective method



The horse too has played an important role in skidding history and is still used today, especially on intricate salvage jobs



The steam skidder was hailed as an important new development in skidding. It is shown here in operation with logs en route to the railroad track





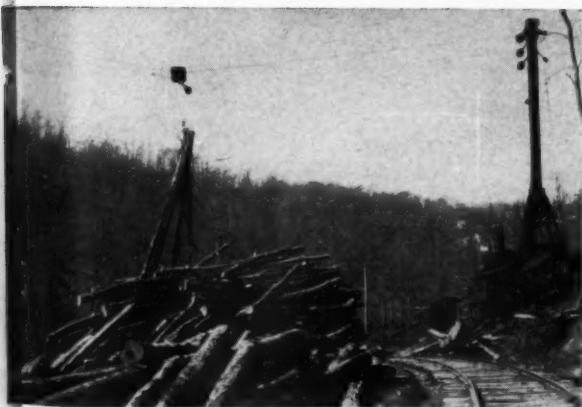
This old fashioned jammer looks a little rickety but it was considered a vast improvement over all previous methods

## ● LOADING



Like the Drott side loader on page 38, this power boom mounted on truck shows how logging on national forests today has become an exact science that utilizes the best modern equipment, avoids waste motion, saves manpower

High lead logging as shown below was another important development that enabled loggers to pull in logs from previously inaccessible forest areas



Dragging big logs by mule and windlass, part of the evolution of the donkey engine—No. 1. Lee Prater, of the USFS, unearthed this unique print

The "Big Wheels" deserve a chapter of their own in any history of skidding practices. This unusual old print of "wheeling" in action shows how it was done—logs on their way to jammer



The modern tractor, some with their own steel spar trees, speeded up skidding. This HD 7 tractor and rubber-tired arch is shown yarding logs down a main tractor road on national forests







Forms of log transportation have been many and varied in our history but there are those who say that the grandest sight of all is a five yoke oxen team as seen here in '18

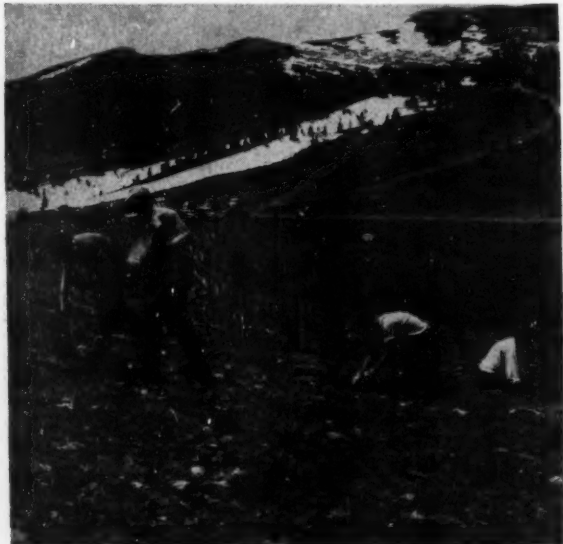
## ● LOG TRANSPORTATION



Author Stewart Holbrook dipped into his magic inkwell to chronicle the fabulous stories of past river drives and railroad logging. Both loom large in logging history. This is the Weyerhaeuser trestle on its big St. Helens Tree Farm

## ● PLANTING

A good back is the standard piece of equipment required for this operation. The CCC boys gave it its most substantial boost. This is a Colorado Mountain Club project



The mechanical tree planter did the same thing for tree planting that the cotton gin did for the cotton industry. Its advent was revolutionary and had a tremendous impact in speeding up planting operations all over the country

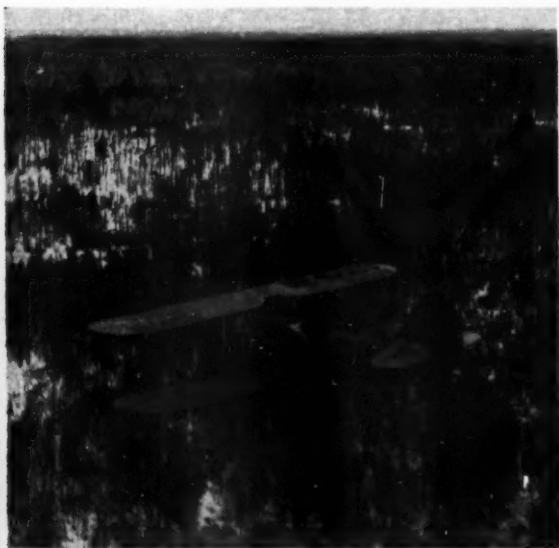


## ● RECREATION

Skiing became big business on the national forests following World War II. Chair lifts (see below) and T-bars, of which the Service has 50, cost \$50,000 and up. More are needed. National forest slopes also boast more than 100 rope tows. The clamor for more skiing facilities continues



With the advent of improved road systems, both rivers and rails are giving way to fleets of trucks that travel on their own rivers of macadam. The truck is revolutionizing log transportation. This is ponderosa pine from national forest



Yes, the airplane is used for seeding operations, too. This N3N-3 Navy trainer bi-plane is spreading white pine seed-sawdust "mix" on a burned area. Normally the plane flies about 50 feet above tree top level; seeds strip 50 feet wide

MARCH, 1955

To thousands of boys, forest rangers are truly romantic figures. But there's more to their lives than hunting, fishing and epic adventure. First and foremost, rangers are hardworking land managers



Photo by W. D. Johnson

Forest Ranger of Yesterday—The famous character "Ranger Bill" was patterned after Ranger J. C. Wells, above

## ***THE FOREST RANGER Yesterday and Today....***

Forest Ranger of Today—Fred Byers, on Cayuse Hill, in Lolo (Montana) National Forest where he is assistant supervisor

Photo by K. D. Swan

**T**HE vigorous announcement, "When I grow up I'm going to be a forest ranger," has a familiar ring to thousands of American parents blessed with healthy sons. To many outdoor-loving boys, the 760 forest rangers of the Forest Service represent the pinnacle in glamorized existence. Here, in the romanticized version of thousands of boys, are real men's men—outdoor men; men who fight fires against big odds; men who are never without a sidearm; men who fight evil and greed in every form, men who scan far horizons from lofty fire towers, and men who hunt and fish almost continually in between more epic adventures.

This is partly true. Rangers undoubtedly lead interesting lives. In the pioneer days they even led exciting ones. Just the same, rangers like Kenneth O. Maughan, of Utah's Wasatch National Forest, and Nevan McCullough, of Washington State's Snoqualmie National Forest, sometimes wish this romanticized version of their work could be tempered somewhat to play up the fact that rangers of today are basically good







"Teddy" Roosevelt had deep affection for "old timers" like Ranger L. A. Myrick shown "posing" before his office on the Grand Mesa Forest



A district ranger and grazing permittee on range inspection trip on Gifford Pinchot Forest, Washington. Photo is on Tatoosh Mountain Range



Ranger Fledberg, of Kootenai National Forest, discusses timber sale with John McRell, Woods Boss of J. Neils Company of Libby, Montana



Supervisor at Work in 1905—Whenever possible, Supervisor Taggaret went abroad in his spotless buggy and with a lap robe tucked snugly about his knees. Here he's shown on the San Jacinto Reserve of the Cleveland National Forest, California, issuing instructions to one of his forest rangers



Today's ranger uses a variety of handy mobile equipment. This Forest Service trail truck is shown on Oregon's Siuslaw National Forest

land managers—a job fully as exciting in its own way as the more dramatic portraits. For example, Ranger Maughan's typical work day goes something like this:

Up at 5:30 a.m. in his modern, up-to-date home to direct a motorist

who had lost his bearings. Breakfast with his schoolteacher-wife. Visit to the doctor for his annual typhoid and Rocky Mountain spotted fever (tick) shots. Reports to his supervisor by short-wave radio on a rising flood that is threatening a highway.

Checks \$100,000 worth of fire equipment. Strolls down the main street of Kansas to make sure that lodgepole which the local lumber company is sawing is properly marked. Studies a deer census report. Types  
(Turn to page 64)

L. A. Barrett took this photo of a ranger examination on packing a horse on Plumas Forest in 1906



Old timers were custodians of land rather than land managers. Rangers of today are much better trained



Forester Don Gabe uses calipers to determine diameter of tulip poplar at Coweeta Lab in North Carolina



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THE NEW**

# International

**THE NEW, 200 NET HORSEPOWER INTERNATIONAL TD-24,** most powerful Torque Converter crawler on the market, developing 59,500 lbs. maximum drawbar pull at a workable speed of 0.8 m.p.h. brings new speed, new maneuverability to any pushloading job. And for logging and pipeline work, too, nothing can match this latest addition to the long line of INTERNATIONAL Industrial Power products for smooth, efficient power.





# Torque Converter

**Greater power—200 net engine h.p.; greater pull—59,500 lb. maximum drawbar pull at 0.8 m.p.h.; matchless maneuverability—finger-tip steering with famous Planet Power Drive in combination with four forward and four reverse speeds; all the features that mean greater operator ease, greater operational economy on your biggest jobs**

For the largest earthmoving projects . . . for laying big pipe faster and surer . . . for attaining new highs in logging production . . . this is it.

The new INTERNATIONAL 200 horsepower TD-24 Torque Converter crawler tractor.

Features that put the new Torque Converter TD-24 in the No. 1 spot include:

- World's most productive torque converter system—multiplies torque up to five times.
- 200 net engine horsepower converted into 59,500 lb. maximum drawbar pull at 0.8 miles per hour.
- Finger-tip hydraulic control with INTERNATIONAL's famous Planet Power Steering in combination with four forward and four reverse speeds to 6.9 miles per hour for matchless maneuverability, unequalled profit-making performance.
- Instantaneous high-low range shift with all transmission shifting being done with *just one gear shift lever.*

● INTERNATIONAL's exclusive "Decelerator" feature gives the operator complete control of the crawler's engine speed at all times. In pushloading, this enables him to match the speed of the pusher to that of the scraper and make smooth contact without jarring pushed equipment or its operator. It takes the shock loads out of shifting . . . gives a smoother performing machine on the pipelines and pulling belt loaders, as well as on dozing jobs.

All attachments to the standard INTERNATIONAL TD-24 are interchangeable with the Torque Converter model, including push-plates, bulldozers, *Bullgraders* and sidebooms.

For the smoothest package of power you ever saw in action, contact your INTERNATIONAL Industrial Power Distributor today. Ask for a demonstration of the INTERNATIONAL TD-24 Torque Converter . . . the most efficient torque converter crawler for any big job.

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**MAKES EVERY LOAD A PAYLOAD**



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Mrs. Gifford Pinchot lights the first candle, symbolizing the initial decade of the Forest Service. Candle for the future was lighted by young Albert Clepper

## THE BLAZED TRAIL

A HUSHED stillness reminiscent of a cathedral pervaded the Presidential Dining Room of the Statler Hotel on Friday evening, February 4, 1955, as over 500 friends of forestry from across the nation heard William W. Bergoffen's "The Blazed Trail"—documentary of 50 years of forestry accomplishment in the nation that served as the centerpiece for a testimonial dinner sponsored by The American Forestry Association and the Society of American Foresters in honor of the Golden Anniversary of the Forest Service.

Previously the guests—state foresters, representatives of the forestry schools, industry, the Congress, conservation groups and Forest Service personnel young and old—had been told by Chief Forester Richard E. McArdle that "your accomplishments are written on the land." They heard Governor Sherman Adams, the assistant to the President, vow that the "wise use" concept as con-

ceived by Gifford Pinchot would be carried on by the Eisenhower administration. And they heard Undersecretary of Agriculture True D. Morse, representing Secretary Benson, state that "the word 'service' is in the name—Forest Service. As we look back over the 50-year record of this Golden Anniversary—we can say it has been Golden Service."

These were all splendid accolades to loyal and faithful service as were dozens of others from governments and individuals all over the globe that were either read or referred to by AFA President Don P. Johnston. Nevertheless, it was the 50 year documentary of accomplishment—not only by the Forest Service but by state and private forestry as well—that especially gripped the interest of the guests including oldtimers whose period of service dates back to 1905 or before. For the Forest Service, from the first, insisted that since forestry is a cooperative venture the

Golden Anniversary celebration should be shared with the cooperators. "The Blazed Trail" tells this story of cooperators—the beginnings under Pinchot, the creation of the national forests, the start of state forestry, the epic of tree farms and the "Keep Green" movement as sponsored by private forestry, and even the honest differences of opinion that, in the final analysis, served to make forestry even stronger than before.

This pageant started with the lighting of a giant birthday cake 15 feet high adorned with 50 twinkling candles. Five unlighted candles stood upright in a wood chalice slightly in front and to the left of the cake, each symbolizing a 10-year period in American forestry history.

"There's a line out of a Kipling poem that goes like this," Mr. Bergoffen said. "... And it's time to turn on the old trail, our own trail, the out trail." "Somehow that line

More than 500 conservation leaders gathered Feb. 4 to pay tribute to the Forest Service at an anniversary banquet sponsored jointly by AFA and the Society of American Foresters

fits this sparkling night. We've come a long way, over a trail no less brilliant in its blazed mileposts than the brilliantly lighted symbol before you. Let's pause just long enough to look back down the trail. The candles will help. They'll shed their radiance on the blazed tall pines and oaks and Douglasfirs—and their shimmering brightness will be reflected in the clear, cold streams and lakes along the way."

As the description of the first 10 years drew to a close—the story of the creation of the national forests, of Teddy Roosevelt, Gifford Pinchot, the Weeks Law and many other important milestones the notes of a pipe organ were heard and Mrs. Gifford Pinchot, wife of the first Chief Forester, came on stage with a lighted pine taper and lit the first of the five symbolical candles. The other episodes followed in quick succession, with candles lighted by Ralph S. Hosmer, of Ithaca, New York, (who started his career in the Service in 1905, and who was born in 1874); and former Forest Service Chiefs Earl Clapp and Lyle F. Watts. The fifth candle was lit by Chief McArdle as Mr. Bergoffen brought the historical portion of his documentary to a close by noting that 17,500 foresters are today practicing their profession as compared to the mere handful available when "work on the trail first started."

But what of the future? "Ever-increasing are this nation's requirements for wood, water, wildlife, recreation and range," the documentary continued. "There are still forest lands to be put under better timber growing practices. We must find new uses for wood and wood products. The whole field of forest genetics is just opening up. We need research and more research. It's a vital key to progress.

"And what about cooperation—in management as well as in protection? There's been a whole lot of it, sure, but the need is for greater and greater cooperation—between the federal government, the state governments, industry, and the private forest landowners. Forestry is a part of our way of life—of the American way of life. Let's take all we can from those who blazed the trail before us—of their inspiration—their knowledge—their dignity—their unselfishness—and their sincerity. Let's use their light and their fire to help light

THE WHITE HOUSE  
WASHINGTON

February 1, 1955

Dear Mr. Johnston:

Please convey my greetings to the members of the American Forestry Association and the Society of American Foresters, and to all attending the dinner which these organizations are sponsoring in honor of the golden anniversary of the Forest Service. Through half a century, the Forest Service has developed a fine tradition in administering our national forests, conducting research, and working with State forestry departments and private landowners. Its work constitutes a central part of our national effort to conserve, develop, and wisely use our forest resources.

As our nation's population steadily increases, all of us must be concerned with keeping our forests productive and protecting the watersheds on which they grow. In years ahead we shall need more homes, more furniture, more paper, more opportunities for outdoor recreation, more pure water. We can be thankful that we have active forestry organizations, public and private, directing their efforts toward a development and use of our forest lands which will help assure their productivity in years ahead. For such a goal can best be attained by cooperation among Federal, State and local governments, and private citizens.

In congratulating the Forest Service on its fiftieth birthday, I salute its members who assemble in Washington for this anniversary dinner and its many other members located throughout the country. May all of you carry on in the same splendid tradition through the next half century.

Sincerely,

Mr. Don P. Johnston  
President  
The American Forestry Association  
919 Seventeenth Street, N. W.  
Washington 6, D. C.



Banquet dignitaries, left to right, Don P. Johnston, Lyle F. Watts, Mrs. G. Pinchot, Richard E. McArdle, Earl Clapp, and E. L. Demmon

our way into the future . . . to help all of us keep working at the big job ahead."

As the documentary drew to a close, a young forestry student (Albert Clepper, son of Henry Clepper, of the Society of American Foresters) took the light from each of the five flickering candles and lit a sixth candle to the right of the huge birthday cake. (Organizations desirous of obtaining the complete text of "The Blazed Trail" for use in similar celebrations should write to the U. S. Forest Service, Department of Agriculture, South Building, Washington 25, D. C.)

"The entire United States Department of Agriculture joins me in saluting the Forest Service as it rounds out 50 years of splendid service," Undersecretary Morse told the audience. "We are proud of our Forest Service and its great accomplishments over half a century. It has a reputation for integrity and square-dealing—through 50 years. It has a reputation of getting work

done—no matter how tough the job. Its people have a strong devotion to public service. . . Through 50 years the Forest Service has helped inspire great advances in the work of the state forestry departments, in industrial and other private forestry enterprises, and in forestry research and education. Through 50 years our Forest Service has built a foundation for even greater achievements for the future.

"The national forests must be protected and much further developed," Mr. Morse continued. "Timber harvesting is not yet up to allowable sustained yield standards. Facilities must be provided for the ever-increasing millions of recreational visitors. Discovery and development of minerals must be encouraged. But, there is concern over a situation where only two percent of an estimated 84,000 mining claims in the national forests are actually being commercially mined. Multiple use of the national forests is essential to realize their full value."

Mr. Morse, who quoted Agriculture Secretary Benson's statement "Let us not forget that forestry is inseparable from agriculture" also quoted resources policy as laid down by President Eisenhower. . . . "To develop, wisely use and to conserve basic resources from generation to generation . . . to keep our economy vigorous and expanding, thus sustaining our international strength and assuring better jobs, better living, better opportunities for every citizen."

Mr. Adams, former governor of New Hampshire and a member of both the AFA and the Society of American Foresters, said, "I pay tribute to an association of men dedicated and of high standing—men who have given up more lucrative possibilities to continue their work in their chosen field of service."

The top presidential aide pledged the federal government's continuation of the "public use" conservation policy established by Gifford Pinchot. He said the "continuation of the Pinchovian philosophy is our job" and part of today's prudent renewable resources "for our children and their children's children."

Mr. Adams also made reference "to our great affection for Dick McArdle (Forest Service Chief) and praised the fine esprit de corps of the Forest Service over the last 50 years.

"May its fine work continue," Mr. Adams concluded.

In conservation, the job has a way of coming first, Chief McArdle said in recalling the many selfless men and women who dedicated themselves to conservation.

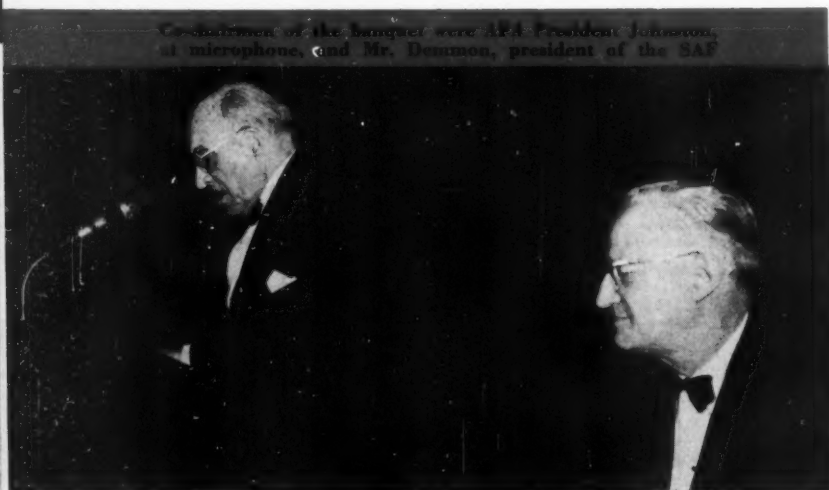
"It's a long list," the Chief declared. "My purpose tonight is only to jiggle your memories just a little. So that you'll recall not only field-going people but the office folks as well. So that you'll remember not only the few with brass hats but the many others along the line who also have responsibility. There are many, many such people here in this room.

"These aren't people who want medals or public notice for what they've done," the Chief continued. "But the nation owes them a debt. For all across this broad country you'll find their accomplishments written on the land.

"Because I know it best, my thoughts turn most to my own Service. But these kinds of people are in every conservation group, public

(Turn to page 74)

Co-chairmen of the banquet were AFA President Johnston, at microphone, and Mr. Demmon, president of the SAF



Undersecretary of Agriculture True D. Morse congratulates the Service



Sherman Adams, Assistant to the President, was principal speaker at dinner







The honey of them all...

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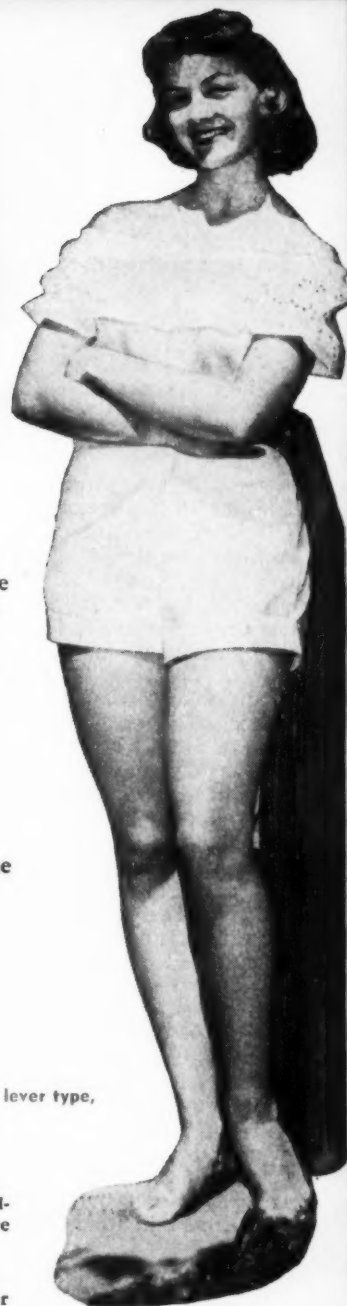
A picture of perfection — that's what users say about **INDIAN FIRE PUMPS** in action. These famous back pack extinguishers have made a name for themselves that can never be equalled. **INDIANS** are the *original*, foremost clear water extinguishers — nothing else is "just as good."

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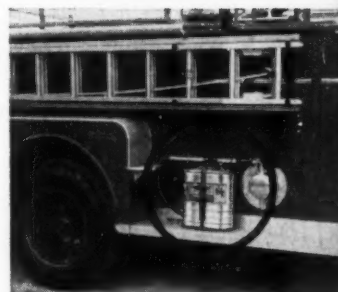
"We have used **INDIAN FIRE PUMPS** for many years. They are indispensable."

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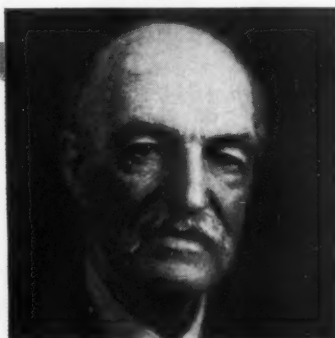
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# Gallery of the Chiefs

Mr. Pinchot



Mr. Graves



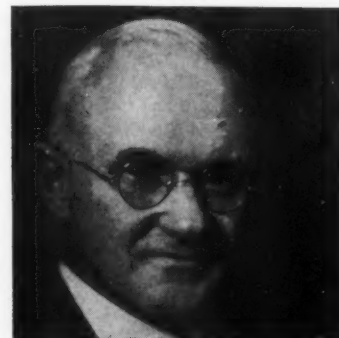
**Gifford Pinchot**—Chief of Forest Service 1905-1910. The first practicing professional forester in America. A graduate of Yale, 1889, he studied forestry in Europe, returned to begin his initial work as forest manager of the G. W. Vanderbilt estate in North Carolina. Appointed Chief of the Division of Forestry, U. S. Department of Agriculture, 1898, he became Chief of the Forest Service on its establishment in 1905.

**Henry Solon Graves**—Chief of Forest Service 1910-1920. The second American to pioneer in the forestry profession. Graduated from Yale College in 1892 and subsequently attended Harvard University and the University of Munich. Appointed by Gifford Pinchot, his life-long friend, as assistant chief of the then Division of Forestry, U. S. Department of Agriculture, in 1898. He was first director of the Yale School of Forestry (1900-1910).

Mr. Greeley



Mr. Stuart



Mr. Silcox



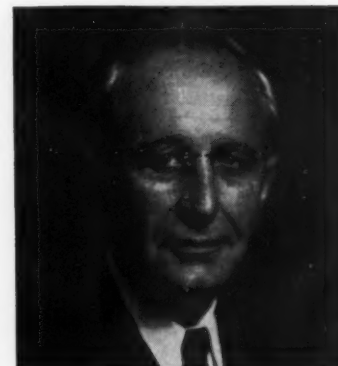
Mr. Clapp



**William B. Greeley**—Chief of Forest Service 1920-1928. Graduate of the University of California and Yale Forest School. Entered Forest Service in 1904 and advanced through all technical grades from Inspector to Chief. During World War I was in command of the U. S. forestry troops in France.

**Robert Y. Stuart**—Chief of Forest Service 1928-1933. Graduate of Dickinson College and Yale School of Forestry. Entered Forest Service in 1906 as forest assistant and advanced through various grades to forest inspector working out of the Washington office. Resigned in 1920 to accept position of Deputy Commissioner of Forestry in Pennsylvania under Gifford Pinchot as Commissioner. Became Secretary of the Department of Forests and Water of Pennsylvania in 1923. Re-entered the Forest Service in 1927 and was promoted to Chief in 1928.

Mr. Watts



Mr. McArdle



**Ferdinand A. Silcox**—Chief of For-  
(Turn to page 74)



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# Case History of a Watershed

**T**HE role of watershed management is becoming increasingly important throughout the nation and the world. Expanding population and industrial demands for water combined with the high values of the timber crop have given impetus to the concept of multiple-use management—management of the land for its highest combined good to man.

This multiple-use concept is generally accepted as sound except where the management of municipal watersheds is concerned. An opinion is widespread that timber harvesting cannot be satisfactorily combined with watershed management. This results in part, at least, from the many deplorable examples of ill effects of logging on watershed values.

The Corvallis City Watershed, although it supported a heavy stand of mature and overmature timber in sight of numerous timber-hungry industries, had been for years managed only for water production and the incidental game production flowing out of a carefully protected game refuge. Within the past two years, timber harvesting has taken its place in the multiple-use management of the area. Therein lies a story.

By **REXFORD A. RESLER** and  
**HOWARD G. HOPKINS**

## Description and History

This watershed of 8,910 acres lies on the east slope of Marys Peak, some 15 miles west of Corvallis, Oregon. It is the principal source of water for an industrial and agricultural community of about 20,000 people whose annual water demand approaches 1 billion gallons. About 85 percent of the community's need for water is supplied by the watershed, the remainder being taken from the Willamette River during the peak load period of the summer months.

Prior to 1920, private logging operations were conducted in the upper reaches of the watershed. The prospect of a denuded watershed prompted civic leaders to initiate action to obtain control of the land within the watershed.

By congressional action, on February 11, 1920, 1,720 acres of revested Oregon and California railroad lands within the watershed were added to the Siuslaw National Forest. This land acquisition was followed by a cooperative agreement, signed on February 7, 1922, between the Secretary of Agriculture and the

City of Corvallis, which insured protection of the watershed values and provided for multiple-use management of the national forest area.

A considerable area within the watershed remained in private hands. The city bought as much land as it could afford and then initiated action through the great conservationist, Senator McNary, to purchase the remainder under authorization of the Weeks Law Act of March 1, 1911. This purchase unit totaling 5,021 acres was given national forest status in January, 1940, making the total national forest ownership within the watershed 6,741 acres and the city ownership 1,938 acres.

Between 80 and 85 percent of the area supports a heavy stand of 200- to 400-year-old Douglasfir timber, totaling an estimated 374,000,000 bd.ft. Gross volumes range as high as 170,000 bd.ft. per acre, but the growth rate has declined to the point that normal losses due to insects and disease are more than offsetting the gains in this overmature stand. This moss-covered, decadent old growth stand constitutes a high fire hazard.

Prior to 1952, several proposals had been made to develop the area for timber harvest and to place the watershed under a sustained yield management program. These proposals, however, met with considerable public opposition; the area remained closed to public entry and undeveloped except for one dirt road which was constructed for fire control purposes.

## Development of the Salvage Problem

During the winter 1949-50, exceptionally heavy snowfalls and windstorms of unusual force resulted in an alarming amount of uprooted timber throughout the Pacific Northwest. An endemic population of the Douglasfir bark beetle, having an overabundance of food supply and breeding grounds, began to build up in numbers until epidemic proportions were reached in 1951. Dry summers contributed to the population increase and so weakened the standing timber that the bark beetles took a heavy toll of green timber. On the City of Corvallis Watershed,

(Turn to page 58)



The Finn mulching machine in operation. This versatile machine has made it possible to mulch, fertilize, and seed all new construction on the watershed



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PAUL B. SEARS, chairman of the Yale University Conservation Program, in *The Saturday Review*: "From now on, whenever I am asked, as often happens, 'Where can I find out about forests and forestry in a way I can understand?' there will be no problem. **TIMBER IN YOUR LIFE** is the answer. I have caught no important aspect of the subject which has been forgotten, nor have I detected any unfairness, despite the author's strong convictions, in his presentation of hot controversial issues—notably the current attempt to wrest control of grazing on national forests and other public lands from those charged by law with conserving them."

STEWART H. HOLBROOK, lumberman-author, in *The N. Y. Herald Tribune Book Review*: "I hope devoutly the book will find its way into the hands of all legislators, all lumbermen, foresters and conservationists . . . I cannot speak too highly of it."

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## Case History of a Watershed

(From page 56)

the stream bottoms were jackstrawed with windfallen trees, and from these foci of activity the bark beetles spread uphill leaving a trail of dead trees in patches up to twelve acres in size.

By the spring of 1952, it was estimated that 20,000 M board ft. of timber had been killed by windfall and bark beetles, making it apparent that logging operations could no longer be delayed. Actual timber damage is now known to be three times as great as the estimate.

### Planning the Salvage Program

Civic leaders of the City of Corvallis and various staff members of Oregon State College were consulted by the Forest Service. Aerial inspection trips were organized for members of the City Council, the local press, and staff members of Oregon State College. A concerted effort was made to inform the public of existing conditions.

Information and opinions bearing on the problem indicated that limited logging could be carried on without serious detrimental effect on the primary watershed use if the entire operation were very carefully controlled.

The decision was made to develop the area for salvage logging in order to halt the bark-beetle epidemic, recover the value of the dead and down timber, reduce the fire hazard, develop a road system to prevent a recurrence of similar losses, and to protect the watershed values by regenerating a vigorous forest cover on the affected areas. To this end a management and development plan was made to correlate the immediate needs for early removal of dead infested trees with long-range management needs.

Items requiring particular attention in the logging plans were concluded to be: 1) control of sanitation necessitated by increased human occupancy of the area; 2) control of road location, construction, and use to prevent stream sedimentation; 3) control of timber cutting to maintain a maximum portion of the watershed in a heavy timber cover, keeping the clear-cut areas to the minimum practical size; 4) control of logging practice to hold soil disturbance to a minimum; and 5) use of extreme care to prevent fires that

might otherwise occur with the increased number of operations in the area.

The maintenance of sanitation was carefully discussed with city officials. After consulting health officers and water officials of other municipalities, the following sanitary restrictions were incorporated in road construction and timber sale contracts: 1) no workman with a history of having had typhoid fever, amoebic dysentery, or infectious hepatitis should be employed in the watershed, 2) no camps should be allowed in the watershed, and 3) pit privies or chemical toilets should be provided and used at all principal points of operation.

Preventing pollution of the streams with soil exposed in constructing the needed roads was recognized as a major problem. Studies at the H. J. Andrews Experimental Forest and engineering observations throughout the region were reviewed. It was apparent that where watershed values were paramount, engineering standards of grade and alignment must be sacrificed. Road locations must be fitted to the ground to give a serviceable road with a minimum of earth movement. Roads should be as far from stream courses as possible. On steep side-hill sections the road should be cut into the solid and the waste material end-hauled and used or wasted on gentle ground. Since earth overcast on slopes 60 percent or steeper generally will not stabilize until it reaches a natural angle of repose, earth should not be overcast where it could contribute to stream siltation. Wherever possible road grades should be held to a maximum of 10 percent to minimize surface and ditch line erosion.

Ditch drainage culverts of at least 25 inches diameter and ample length should be provided at frequent intervals and located in such a manner that the water runoff from the roadway will spill back onto the undisturbed forest floor where the silt load may settle out or where the water may percolate into the ground. Furthermore, since water running down the ditch line usually picks up and carries a heavy silt load, ditch drainage culverts should be placed in advance of live stream crossings

(Turn to page 60)





*T*HE Lord gave the sparrow his food, but He did not put it in his nest for him! And so it is with our forests. A Divine Providence has given us our trees, but it is our responsibility to care for them, and to make them produce in greater abundance. This calls for the continued teamwork of private business and public agencies, whose joint aim must be to see that our most valuable renewable natural resource will always meet the needs of a great and growing America.

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to divert the water from the streams to the undisturbed forest floor.

Finally, road surfaces should be rocked and well crowned to prevent water from running down the road. Frequent maintenance, including hand work, would be necessary to accomplish this.

Plans were made to clearout only those areas where about 30 percent of the stand was dead. Setting boundaries were to be located to correlate the need for safe fire lines, wind-firm cutting boundaries, practical leave settings, and small clear-cut areas ranging in size from three to 10 acres. A thin strip of green timber was to be felled around the edges of the beetle-killed patches to remove infested trees and to obtain green "trap logs"—the only known economical method of bark-beetle control.

Scattered dead timber was to be selectively logged where accessibility and topography permitted by either portable yarding equipment or by crawler-type tractor. Uphill high lead cable logging would be required on all major clear-cut areas, yarding across live streams was to be avoided to the fullest extent practical, and where conditions necessitated yarding across minor streams. Landings should be so located as to permit adequate lift to prevent undue soil disturbance. Tractor logging should be avoided as far as possible, and such as was permitted should be restricted to dry conditions on gentle topography.

Where tractor logging was necessary, as in selective salvage, each bulldozed road would be located or approved in advance by the Forest

field fires. One state forestry department has over fifty of them in service. Their 4 cycle aircooled 8¼ ft. engine is easy to start in any kind of weather.

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## Case History of a Watershed

(From page 58)

Service. Upon completion of logging, the tractor roads should be cross-drained at a maximum of 100-foot intervals or properly outslaped in order to insure adequate drainage.

Fire precautions should include strict enforcement of normal requirements plus additional fire fighting equipment, patrolmen, and an effective communication system.

Prompt burning of slash would be necessary to reduce the fire hazard and to eradicate the heavy ground cover of vine maple which otherwise would impair regeneration of Douglasfir. Close utilization would be required to minimize the amount of slash left on the ground. In order to prevent site deterioration and excessive erosion, slash should be disposed of by burning concentrations, by piling and burning, or by broadcast burning under comparatively wet conditions, whichever proved most practical in the light of existing conditions.

To further protect the watershed values, it was proposed to promptly reforest the clear-cut areas by planting with two-year-old Douglasfir planting stock immediately following the disposal of slash.

These measures were effected by including in construction and timber sale contracts the necessary clauses to insure operator compliance. Close administration of all sales and construction projects was provided by the Forest Service in an effort to prevent the occurrence of any activities which might result in serious damage to the watershed.

### Progress of the Salvage Program

By the end of 1954, approximately 31 million board feet of timber had been sold, and current plans include 12 to 15 million more to be sold during 1955. Seven miles of government-financed access roads have been constructed and 4 additional miles have been contracted to be completed in 1955. In addition, approximately 11 miles of roads have been completed by timber sale purchasers. It is estimated that 10 more miles of roads will be needed.

### Results, Observations and Problems Encountered

Results and observations to date have in general verified the sound-

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## Washington Lookout

(From page 8)

establishment of the Emergency Conservation Work, later called the Civilian Conservation Corps. On April 10 the first quota of 25,000 men was called, and on April 17, the first camp, Camp Roosevelt in the George Washington National Forest near Luray, Virginia, was occupied.

1934—The Taylor Grazing Act was passed "to stop injury to public grazing lands by preventing overgrazing and soil deterioration, to provide for orderly use, improvement and development, to stabilize the livestock industry dependent upon the public range."

1937—The Norris-Doxey Cooperative Farm Forestry Act was passed. It provided for increased technical aid of farm owners in the sound management of their woodlands.

1944—A law was passed to authorize cooperative agreements for joint operation of public and private timber under sustained-yield plans. The Clarke-McNary Act was amended to authorize increased appropriations for cooperative fire protection, and another law authorized appropriations to keep forest surveys up to date.

1946—The American Forestry Association formulated a "Program for American Forestry" calling for effective protection of all forestry and watershed lands from fire, intensified control of destructive forest insects and diseases, expansion of technical assistance to owners of small forest properties, increased forest planting, more research in timber growing and harvesting and in wood utilization, and regulation of timber cutting practices by the several States.

1945-47—The Forest Service completed a post-war reappraisal of the forest situation in the United States. A separate independent appraisal of the forest resources of the United States was completed by The American Forestry Association in 1946. Although there were some minor differences in details, the overall findings of this appraisal and those of the Forest Service reappraisal were basically in agreement.

1947—Congress passed a Forest Pest Control Act (61 Stat. 177) which recognizes the Federal concern and responsibility in the control of forest insects and diseases on a Nation-wide basis, and on lands in all classes of ownership.

1951—The American Forestry Association published a survey of progress in forestry for the period 1945-50.

1950—Congress passed the Granger-Thye Act to facilitate and simplify the administration of the national forests. It provided for the constitution and election of local advisory boards for each national forest or administrative subdivision thereof whenever a majority of the grazing permittees so petition. Appropriation authorization for range improvements was provided for on a per-animal-month use basis; and for purposes of controlling grazing on national forest lands, the act limited issuance of grazing permits to periods of 10 years and renewals thereof. In addition, the act clarified the intent and extended certain authorities of existing statutes. The Cooperative Forest Management Act was approved.

1954—Public Law 566, a grass roots watershed act was passed. This year also saw The American Forestry Association formulate and sponsor a new Program for American Forestry.

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## Case History of a Watershed

(From page 60)

ness of the original proposals. Many problems have arisen which have been worked out with varying degrees of success. Both the successes and failures have been critically analyzed in a conscientious attempt to minimize the disturbance to the watershed while accomplishing the much-needed salvage operation.

No sanitation problems have been encountered to date except for an oil slick on one of the creeks which was caused by improper disposal of waste lubricating oil.

No accidental fires have occurred. Slash disposal has been completed on approximately 75 acres of cut-over land. Due to poor slash burning conditions last fall, approximately 90 acres of slash will be on hand for the coming fire season which will necessitate additional protection.

Effect on stream silting during seasons of heavy rainfall has been observed with interest. Logging apparently has not contributed measurably to stream siltation since streams flowing through recently logged and burned areas have shown no more color during the height of storms than those flowing through undisturbed areas. Furthermore, the streams under both conditions seem to clear up in about the same length of time following the rains.

It has been apparent that the use of roads during wet weather would contribute measurably to stream siltation if permitted. Measures which have been found to minimize siltation from road use, provided operation is ceased during wet weather, are frequent grading, hand maintenance, and careful operation of trucks to keep trailer tracks from

breaking down edges of fills. Although it is generally accepted that berms should be graded off the road to allow adequate drainage, it has been found that a berm along the outer edge of fill sections has reduced soil disturbance, since accumulated water could be spilled on undisturbed areas rather than allowed to channel down through unstable fill material. This appears to be effective for the first year or so until the fills stabilize.

The siltation that has occurred has come almost entirely from road construction. Fortunately, the majority of the disturbance has occurred below the city's water intakes. The soil at the lower elevations in the watershed is especially susceptible to sloughing. Sloughing of fill material, even on gentle slopes, has occurred repeatedly. This has been found to be the greatest single source of disturbance. In these soils extra long culvert pipes, masonry headwalls, and rock riprap must be provided to keep the slough from reaching live streams. Additional measures to be tried in future construction are building up fills in shallow lifts to obtain better compaction and lamination of successive lifts of rock and earth to provide drainage. At a cost of about 20 cents per thousand board feet all bare soil exposed in road cut and fill slopes and ditch lines has been promptly revegetated by mulching with straw, fertilizing with nitrogen and phosphate, and seeding with pasture-type grasses. The green grass-covered banks are in startling and pleasant contrast to the raw earth banks usually associated with logging roads. While not effective in stopping sloughing, the grass cover has very definitely reduced surface erosion.

An experiment in compacting fill slopes by rolling with a half-filled 1,000 gallon water roller on the drumline of a heavy tractor has successfully stopped all sloughing to date in an area where comparable unrolled fills continue to slough.

Special requirements have had no serious adverse effect on bidding for stumpage.

Cooperation on the part of road contractors and timber sale purchasers has generally been good.

(Turn to page 64)

## COUNCIL FORESTRY TOOLS

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Today the woodlot presents new challenge, new opportunity—especially to farm youth. Fenced to prevent damage due to pasturage it may be a watershed to fill a pond, a refuge for wild life. It may be selectively harvested to yield saw logs, rail ties, fence posts, or pulp wood. It may be replanted, perhaps with Christmas trees, to produce better returns in years to come. So managed, a wooded area may indeed be an endowment, begun in boyhood to mature in the fullness of manhood.

All this is a place for the energy and ingenuity of youthful enterprise. There are new applications of conservation principles, new techniques of tree culture, new methods for planting and harvesting trees. With the help of a modern tractor, and some supplementary equipment, woodlot enterprise can be both pleasant and productive. J. I. Case Co., Racine, Wis.

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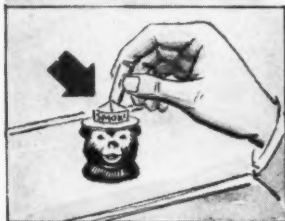


Master of woodlot tasks is the Case "VAC-14" low-seat tractor, shown here with half-tracks added for work in soft ground. With PTO auger to dig holes and utility carrier to haul materials it speeds the planting of young trees or the building of protective fence. The same Eagle Hitch carrier lifts and moves logs without damage to the stand. With loader and fork lift it puts logs into piles or onto trucks. The "low-seater" has adjustable tread and full under-clearance for work among trees and stumps, convenient power to pull transplanters and drive saws.



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(This offer for Dealers only)

## Case History

(From page 62)

An important incidental result has been a program of research on effect of timber utilization on water quality, methods of bark-beetle control, and related subjects concerning watershed management.

### Summary

Results of the program to date are considered good. In support of this feeling is the fact that the City of Corvallis entered into a cooperative agreement on June 25, 1954, providing for the Forest Service to manage the salvage program on city lands in accordance with the methods and practices used on national forest land.

It is concluded that timber utilization, if carefully controlled, need not be inconsistent with intensive watershed use of a forest area.

## Forest Rangers

(From page 47)

a letter to the regional Boy Scout council to report snow damage at one of their camps. Palavers with cattlemen and sheepmen about grazing fees and grazing permit transfers. Confers with foresters and lumbermen concerning a new timber sale being considered. Studies reports on an insect epidemic threatening national forest timber. Attends a Scout meeting and gives a report on approved fire protection measures in the woods. Takes home a batch of reports to study in the evening hours.

Not so glamorized a day, a boy might say. No big fires. Ranger Maughan's well-checked fire equipment saw to that. No run-ins with cattlemen. The cooperative approach to grazing problems is solving that. Nevertheless, a highly satisfactory day in terms of integrated land use and working effectively with people. Satisfactory, in other words, in terms of management on the land and in the eyes of rangers who today regard themselves as good land managers. And boys, in time, will learn that this can be a deeply satisfying life too—one that is exciting and one that challenges man's imagination and ingenuity.



## Ranger's Wife

(From page 32)

fire business that always irked me. I never saw a fire or a fire camp because the phone rang incessantly at home. But 3 summers ago a remarkable thing happened. Our neighboring ranger on the Capitan District had a super colossal 17,000 acre bust that gave me very little phone business, and a big eye-full of what I've been working around for so many years.

I sat at my station and watched the Bikini shaped cloud mushroom into the sky on one day and shroud the crest of the mountain another. I drove out to the fire camp and saw the portable light plant do its stuff, the cooks dish out hot food in tin plates, and the black smeared faces welcome a dash of cold water. Smoke rose from the pine covered hills as far as I could see.

I had always pitied the poor ranger out on a fire, assuming he ate cold beans out a can picnic style and suffered every minute until he was back home receiving the doting care of his family. The Capitan fire dispelled any unnecessary sympathy I might have wasted in future years. Here was an efficiency expert's dream of life in the great outdoors. Not cold beans, but thick juicy steaks and red slices of baked ham graced the fire fighter's plate. Stoves, not campfires, cooked the food. Tents were stretched for clerks to handle the time-keeping papers, and for first-aid to injuries. A telephone booth of canvas and comfort stations of the same, made the fire camp a neat, efficient town of activity. Of course the men did look dirty and tired when they dragged into camp, seeming to have a job on their minds instead of the pleasures of an outing.

As the night crept in, a city of flickering red lights seemed to glow in the forest. There was a fascination in the glow of the flames, a horrid fascination with the underlying knowledge that tomorrow the mist would settle as the somber gray shroud on the skeletons of once magnificent beauty.

I drove a trembling-chinned youth back to town. He'd been trapped on a rock slide three hours while flames licked his feet and singed his hair. I watched a friend in town fix beds for the family of five whose

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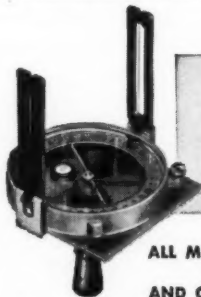
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home and possessions had been lost in the fire.

One day during the three weeks my husband acted as dispatcher for the Capitan fire, I had finished the morning chores of building a fire in the cookstove, weeding the garden, feeding the chickens, the horses, and the children, relaying ranger's messages to fireguards and lookouts, and was twittling my thumbs when Ed gave me the details of Smokey, the bear cub's rescue. The 4-month old cub found in the Capitan fire with badly burned feet was destined to gain nation wide fame as the symbol of forest fire destruction. I grabbed every crumb of the tiny bear's story and fed it to the local papers and periodicals, proving that the wives finally end up with the Forest Service gleam you see in the eyes of rangers, to protect and cherish the trees and wildlife.

Women in every walk of life have always sponsored some *Cause*. They may be ardent supporters of a community uplift society, a refuge for homeless cats, or the re-enactment of prohibition. Regardless of the final results or the purpose, all women must work for a *Cause*. Rangers' wives are handed a well-planned crusade as they enter the first ranger station. The ultimate joy of devoting long payless hours to the *Cause* of forest fire prevention far surpasses the slight inconvenience of life with sad irons, washboards, butter churns, teakettle baths, woodstoves, lack of neighbors, and kerosene lamps. Or does it?

Rangers, those conservation preachers, are as devoted to their life's work as any religious minister is to teaching the gospel. Preaching conservation is more than a job for pay. Heavens knows higher wages can be obtained in most any other profession! But for the same reasons a preacher spends his life in the spired chapel, a ranger lives and works with the forest. The wife of a minister must be as concerned with the work of the chapel as her husband. A ranger's wife believes and spreads the conservation gospel of her husband.

There are quite a few of us rangers' wives in the United States. Most of us were school teachers, college girls, many city bred. It hasn't been exactly easy to learn to enjoy the life in the forest. At first we even resented a husband's occupation that seemed to be first while we were second. Then one day we found ourselves taking up the banner, and now we realize that tourists

are paying thousands each year for a glimpse of the beautiful resources that provide our everyday fare.

I don my heavy shoes and follow my husband from tree to tree as he marks timber, just because I like to be in the forest; the grama grass feels the imprint of my foot in a man's study of its density; to the ranch people, I am just another neighbor and friend; I have watched bands of sheep cross the forest twice a year and served coffee to the visiting ranchers; elk, deer, turkey, quail, and even one mountain lion have posed for my pleasure; but best of all, I have no worry for juvenile delinquency. Any child raised so close to the wonders of the forest absorbs a healthy love for the outdoors. The sanctity of God-made trees and all the glories of nature, guide their footsteps on the path to being fine citizens without much fretting from mother.

For two or three months of each year the drama of life in the forests of New Mexico is exciting and tragic. After fire season is over and rains once again soak the earth, we breathe a big sigh of relief and glance in regret at our losses. No fishing this fall in the black waters of the south fork; the timbered slope of last year's deer kill is a graveyard of dead trees; "Road Closed" sign greets the tourist in one pretty canyon where erosion from the fire has blocked the way.

The supervisor stopped by the station last week and asked, "Does it worry you to have that husband off fighting fires?"

My reply, "You fellows never give me time to worry!"

"Why don't you persuade your husband to quit the ranger life?" the supervisor questioned with a sly grin.

"Heavens no!" I exploded as he knew I would. "I think—" Then I stopped. The inkling of a suspicion had suddenly entered my mind. "I wonder if the Forest Service could possibly survive without me?" I didn't ponder that question. It was too upsetting. I had long known that I would have an empty existence without the job as ranger's wife.

**SOUVENIR COPIES** of this special issue of **AMERICAN FORESTS** are available at the regular price of 50 cents each. They may be obtained by writing to The American Forestry Association, 919 17th St., N.W., Washington, D. C.



## St. Paul Grows Men, Too

CHRISTOPHER RICHARD PETTERSEN is two and a half years old. His father works for St. Paul & Tacoma Lumber Company.

Chris should be joining the firm in about 1972—after he graduates from Forestry School, like his Dad before him.

It will take a good bit longer before the young Douglas fir comes of age, but we're counting on it, nonetheless.

At the 200,000-acre Tree Life Tree Farm, near Mount Rainier, this whole generation of

trees will be logged in about 80 years.

By that time, Chris's grandson should be with us to help log, process or market the benefits of this generation-to-generation planning. If he is, we're sure he, too, will help perpetuate his forest products inheritance through tree farming—thereby insuring future timber harvests for still future products and payrolls.

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## Congratulations from the Press

**The Washington (D. C.) Evening Star**—If America is greener in 1955 than it was in 1905, some part of the credit certainly must be due to the Forest Service. The trend half a century ago was away from conservation, but it carried its own corrective—the wasting of the nation's timber resources led to the setting up of a national program of timber saving which now is one of our country's most useful public agencies.

Of course the Forest Service has not been the only working force in this field. When it was formed by merging the old Bureau of Forestry and the Forestry Division of the General Land Office, it was expected that it would have the cooperation of other conservation organizations and establishments. Visitors to the golden anniversary exhibition at the Agriculture Administration Building see evidence there of the helpful partnership of state forestry units, forestry schools, forest industries of many different sorts and many farm societies, wildlife and recreational bodies and hundreds of private individuals. We Americans definitely are timber-minded people. In perhaps no other similar activity are we so conscious of the origins of our material progress. But it does not follow that we are as concerned or as well educated as we ought to be. For example, there is need for wider and more effective knowledge of the insect enemies of our forests and of the fungus diseases which afflict them in large areas. We also should be better trained and better equipped to fight forest fires, first by being vigilant to prevent them and, where they already have been started, skilled in putting them out and replacing the losses they have caused. Forest conservation and its relation to water supplies likewise should be better understood.

The 50th anniversary of the Forest Service then is no mere jollification. Rather, it is a new opportunity for enlisting interest in keeping America green and in making America greener.

**The Memphis Commercial Appeal**—On Feb. 1 the Forest Service . . . (celebrated) . . . its golden anniversary. On that day in 1905, Gifford Pinchot became first chief of the Forest Service of the Department

of Agriculture, a new organization combining the forestry division of the General Land Office with Bureau of Forestry of the Agriculture Department.

It was the turning point toward better use of the forest lands.

Conservation was the early goal of foresters, and it remains important. For instance, in 1953 forest fires burned only 0.7 per cent of the millions of acres with organized protection of the Federal, state and private forestry agencies. But 13.5 per cent of the forest still unprotected burned during the single year.

As forestry has become a science, however, the emphasis has moved beyond conservation to usefulness. National forests now provide more than five billion board-feet of timber a year and are capable of supplying more year after year.

Grazing for eight million cattle and sheep is furnished in the forests.

Recreation seekers make 35 million visits a year to the forests.

And all the while, the natural forest cover protects the ground water supply for city dwellers, industrial plants, irrigated farms and hydro-electric dams.

For forests that continue to be useful, instead of being used up, the people of the United States should thank the Forest Service for its 50 years of effort and join green-clad foresters in celebrating the anniversary.

**The Ogden (Utah) Standard-Examiner**—February 1 . . . (marked) . . . the golden anniversary of the Forest Service of the Department of Agriculture and also 50 years of rather intensive education about conservation.

The sad truth is the American people greeted the establishment of the Forest Service without any general enthusiasm and with considerable misunderstanding. And the interests which had been making profitable use of the publicly owned forest lands, often through destructive methods, greeted the creation of the new agency with downright antagonism.

The Forest Service, in self-protection, had to undertake a program of public education about the value of conservation. A department of public relations was necessary if the

agency was to be defended from its foes. Gradually, the then novel idea of managing forest lands for continued production took hold. The American people began to understand that conservation practices were required if their children and grandchildren were to enjoy some of the great natural resources with which the nation was so generally endowed.

A good example of the power of Forest Service education was the change in attitude in Ogden and its vicinity about the mountain fires that used to burn occasionally for days without attention. The community slowly but surely was taught that destruction of watershed foliage was a threat to future productivity and prosperity. Public opinion brought about passage of laws placing responsibility for controlling watershed fires. Utah became conservation conscious to a degree it developed a forestry and fire control program, just as other states have done and as owners of private forest land have done.

Pres. Theodore Roosevelt launched the Forest Service by emphasizing that "wise use" was the method to be employed in preserving the national forests and the "wise use" was to be enjoyed by all segments of the population, "making the forests useful not only to the settler, the rancher, the miner and the men who lived in the neighborhood, but indirectly to the men who may live hundreds of miles off down the course of some great river which has had its rise among the forest-bearing mountains."

Great progress has been made in forestry in 50 years, and many important battles have been won by the forces of conservation. Yet there must be no relaxation of the "wise use" philosophy and practice. For the resources we have left must be managed for the benefit of rapidly increasing population. The Forest Service has even more important work to do in the next 50 years than in the past.

**The San Diego Evening Tribune**—This week takes the U. S. Forest Service into its second half century. Its devoted workers have pushed  
(Turn to page 70)

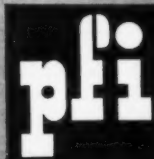


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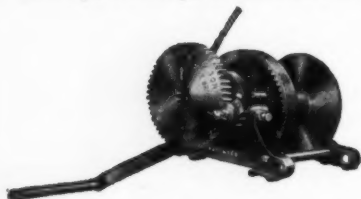
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## Congratulations from the Press

(From page 68)

their task of keeping America green with increasing success since it grew out of the merger Feb. 1, 1905, of the Bureau of Forestry and the forestry division of the General Land Office. They still have much to do. Sometimes they're hampered by sluggish support from Congress and the public. Their job doesn't always seem dramatic. There would be drama—tragedy—if it failed, and the United States lay bare of trees, bleak, brown, gullied.

Agriculture Secretary James Wilson, who held office under Presidents McKinley, Theodore Roosevelt and Taft, set forth the mission of the service on its creation, saying, "You will see to it that the water, wood and forage of the reserves are conserved and wisely used for the benefit of the house builder first of all. . . . The continued prosperity of the agricultural, lumbering, mining and livestock interests is directly dependent upon a permanent and accessible supply of water, wood and forage, as well as upon the present and future use of their resources under business-like regulations, enforced with promptness, effectiveness and common sense."

Started off right by its first director, Gifford Pinchot, the Forest Service has followed that difficult line closely. San Diegans see a sample of its excellent work in Cleveland National Forest. There's more of the same the nation over. The Service protects irreplaceable natural assets and on its 50th anniversary merits wishes for continued, vigorous life, as sturdy in its way as that of one of the forest giants it guards.

### *The Washington (D. C.) Post—*

Fifty years ago . . . the Forest Service was formally established as a division of the Department of Agriculture. The ensuing half century has brought rich dividends for the foresight of President Theodore Roosevelt and Gifford Pinchot, the first chief forester, who tied together the disparate governmental activities in this essential field of conservation. Americans have become increasingly conscious of their priceless stake in managed forests to provide timber, watershed and wildlife protection, grazing and recreation.

The Forest Service has attracted a corps of unusually dedicated men in this task of maintaining a wise balance so as to preserve forest resources for future generations. Growth and cutting practices recommended by the Forest Service are now generally accepted in the lumbering industry (the worst violations of good practice are found on small woodlots). The public has been alerted increasingly to the importance of fire prevention. One measure of the Forest Service's success in developing these resources may be seen in the fact that receipts for use of the national forests in fiscal 1954 exceeded 67 million dollars, as contrasted with \$75,000 in 1905. The Forest Service also has followed a wise policy of setting aside certain primeval tracts as perpetual wilderness areas.

While there is now general agreement on the purposes of the national forests, threats to their integrity remain in the form of efforts to lower the restrictions on one or another form of private exploitation. The Department of Agriculture, for example, has been persuaded to give its indorsement to bills which would give holders of grazing permits what would amount virtually to property rights in the forests and would reduce the authority of the Secretary of Agriculture. Fears have not been assuaged by the appointment of former Rep. Wesley D'Ewart of Montana, sponsor of one of the most extreme of the bills, as a special assistant to Secretary Benson—although there is reason to hope that Mr. D'Ewart, who has taken a constructive interest in other conservation matters, may moderate his views on this one. In any event, if the next 50 years of the Forest Service are to be as meaningful as the last, continued vigilance will be necessary to see that its high purposes are not undercut in practice.

*The New York Times—*The United States Forest Service reached its fiftieth year Feb. 1. In . . . celebration of the anniversary it looked back proudly . . . at its conservation campaign.

Half a century ago lumber men were chopping through the nation's  
(Turn to page 72)



CONGRATULATIONS FOREST SERVICE,  
U. S. Department of Agriculture, and to the mem-  
bers of The American Forestry Association for  
the fine job done throughout the years in estab-  
lishing better forestry practices.

It is essential that sound conservation practices  
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supported by all of our populace in order to  
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3-55

## Congratulations

(From page 70)

dwindling forests and leaving wastelands as their sawmills moved on. Today the forest industries manage their lands for continuous production and encourage farmers to handle trees as recurring crops.

Millions of woodland acres that had been stripped by cutting and by fires have been replanted by private owners and Government Foresters. The nation's forests today produce all the wood the United States needs and production can be doubled if necessary, a Forest Service expert estimated.

The service, created when President Theodore Roosevelt signed a bill on Feb. 1, 1905, has grown from a force composed of a handful of crusading conservationists to a great land-management, research and educational agency within the Department of Agriculture. It has more than 6,700 permanent employees, and about 12,700 at the height of the forest fire danger season.

Half a century ago the few acres set aside as national forests were in remote "back country." Today the Forest Service operates 115 national forests aggregating 181,151,000 acres in thirty-nine states, Alaska and Puerto Rico. These forests comprise 16 per cent of the nation's commercial forest land.

Under scientific management, the national forests now supply more than 5,000,000,000 board feet of lumber annually and the harvest is growing. They also furnish seasonal grazing for millions of cattle and sheep and supply recreation for millions of citizens.

Federal cooperation with the states for the protection of state and private lands from fire began on a small scale in 1911. Today more than 374,000,000 acres of state and private lands are protected by the system.

Forest Service research seeks new and better wood products and develops faster-growing trees. Cross-breeding of trees is one phase of the work.

A golden anniversary forestry exhibit at Agriculture Department headquarters includes sections cut from a native aspen tree and a hybrid aspen.

Having prominence in the exhibit is Smoky, the Forestry Service's "fire preventin'" bear.

# **Timber is a Crop** *Harvest it Wisely*

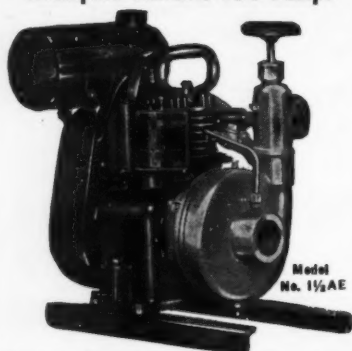


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## The Blazed Trail

(From page 52)

and private. For forestry is big—bigger than any one of us and bigger than any one organization. The job is so large, so big, that only through the combined efforts of many working together will the job ahead get done.

"I do not need to tell this group that the job is worth doing," the Chief said. "None of us can read very far into the future. But amidst the doubts and uncertainties and troubles that beset the world today there are at least some things of which we can be sure. We can be sure of our continuing need for food, for shelter, for clothing, fuel and the raw materials needed by industry. These are the real, the basic necessities of life. These are the things we must have to live. And most of them are products of the land."

Elwood L. Demmon, president of the Society of American Foresters,

served as co-chairman of the banquet with Mr. Johnston.

Cowboy Joe Campbell, NBC-TV Circle 4 Ranch star, and the United States Air Force Orchestra and that organization's famous "Singing Sergeants" rounded out the entertainment program. The Air Corps aggregation paid a tribute to the aid provided by the Forest Service in helping to train the paratroopers of World War II under General "Hap" Arnold.

Cooperating patrons of the anniversary dinner were the American Nature Association; Charles Lathrop Pack Forestry Foundation; The Conservation Foundation; Forest Products Research Society; National Audubon Society; National Wildlife Federation; North American Wildlife Foundation; Sport Fishing Institute; Wilderness Society; and the Wildlife Management Institute.

## Gallery of Chiefs

(From page 54)

est Service 1933-1939. Graduate of the College of Charleston, South Carolina, and Yale Forest School. Entered Forest Service in 1905 as ranger and had advanced to the rank of district forester when in 1917 he was given military leave. Entered 20th (Forest) Engineers of the American Expeditionary Force with captain's commission. After less than a year's service was selected by the Secretary of Labor and the Shipping Board to head a bureau to handle labor problems at the shipyards at Seattle, Washington. Following the war, went to Chicago as Director of Industrial Relations for commercial printing industry. Became Director of Industrial Relations of New York Employing Printers' Association. Re-entered Service as Chief in 1933.

Earl H. Clapp—Acting Chief of Forest Service 1939-1943. Graduate of the University of Michigan. Entered Forest Service in 1905 and served continuously until his retirement in 1945.

Lyle F. Watts—Chief of Forest Service 1943-1952. Graduate of Iowa State College. Entered Forest Service in 1913 as technical assistant. Had been advanced to grade of forest inspector when he left Service in 1928 to organize and direct the forestry school at Utah State Agricultural College. Returned to Forest Service in 1929 at Intermountain Forest and Range Experiment Station. Director of Northern Rocky Mountain Forest and Range Experiment Station (now Intermountain) from 1931 to 1936. Was Regional Forester of North Central Region and of Pacific Northwest Region from 1936 to 1943.

Richard E. McArdle—Present Chief of Forest Service. Graduate of University of Michigan. Served overseas with the U. S. Army during World War I. Entered Forest Service in 1924. Became Chief Forester in 1952.



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## The First 25 Years

(From page 15)

pulp mills to the 70 billion feet of hemlock timber on the Tongass National Forest. Directly after World War I, a young forest engineer named Frank Heintzleman was dispatched to Alaska to concentrate on this problem. Excellent prospects for large sales of pulpwood were frosted in the bud by the depression of the 30's. This background of frustration and hope deferred will explain the peculiar thrill which some of us felt at the opening of the great mill of the Ketchikan Pulp Company in July 1954, with Governor Heintzleman as guest of honor.

Meantime, back in 1916, Congress took the first step in the most important long-range program for balancing the cut of ax-ripe timber on the national forests with their capacity for growth. This was an appropriation of \$10,000,000 for forest roads.

Forest management and calculations of growth brought us face to face with the 15 million acres of denuded land in the national properties. What were we going to do with them? The old Bureau of Forestry had started systematic planting in the Nebraska Sand Hills in 1902, and had pretty well amassed the planting techniques of European and early American forestry. Our planting chieftains set up their plans and goals with the fervor of real crusaders. Fifty-one forest nurseries were in operation in 1911. And, of course, the Service girded itself to conquer first the toughest problem areas along and beyond the margins of natural tree growth. Were those not the regions most in need of more forests?

It was my lot to explain the whole tree-planting undertaking to Secretary of Agriculture James Wilson. The wise old farmer from the Iowa corn belt looked at me dubiously over the rims of his spectacles. "Fifteen million acres! Young man, you'll never do it with a *spade*." We tried our best to carry out the Secretary's injunction, with corn planters, spot scalping and many other devices for putting tree seed directly into denuded soil. Our labors seemed mainly to produce more and fatter field mice; and the restoration of destroyed forests had to fall back upon the seedling and the spade.

The Forest Service carried the torch of reforestation by the hand of man into every national forest region, although experience taught our planters to draw in their lines from the most difficult sites. By World War I, the yearly plantings were covering from 10,000 to 15,000 acres. One of the notable accomplishments was the creation of a pine forest of 30,000 acres in western Nebraska.

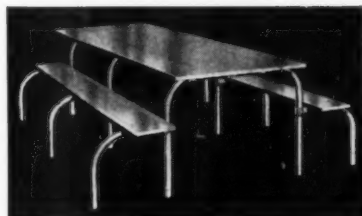
Always looming behind the constructive and alluring things we wanted to do in research and planting and cutting practices stood the grim specter of fire. Time and time again were we taught the bitter lesson that the number one precept of American forestry is fire control. The catastrophic losses of 1910, when over four million acres and six billion feet of timber were burned and 78 fire fighters killed in action, brought home the vulnerability of our great western wilderness when Nature's latent forces are unleashed. And the recurrence of very dry seasons, as in 1919 and again in 1926, kept the urgency of the fire job constantly before us.

The challenge to lick the forest fire became one of the great spiritual forces that molded the Forest Service. Everyone felt and shared the responsibility. Many men contributed to the long-drawn battle. Ranger Pulaski on the Coeur d'Alene devised the best hand-trenching tool; Bush Osborne, down on the Columbia River, the best fire finder for look-outs; Evan Kelley, the effective organization of fire-fighting crews and suppression strategy. The process goes on without end.

In 1909, the Service joined the lumbermen's patrol associations of northern Idaho in the practical division and organization of protection districts. Our full weight was put into the Western Forestry and Conservation Association. Under the leadership of Ned Allen it became a grand lodge of forest protection agencies in the western states and British Columbia. "Western Forestry" produced a fire-fighters' manual; held schools on fire-fighting methods and techniques; promoted studies of fire weather and humidity forecasts by the Weather Bureau. It also sponsored much local fire legis-



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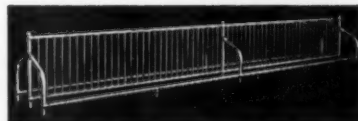
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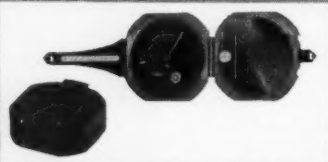
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lation and the cooperation of nation, state and private owner which was the heart of the Clarke-McNary Act. This sort of pull-together against a common enemy went on in all national forest regions; and the long-range benefit in practical know-how and effectiveness was incalculable.

After World War I, came the airplanes in fire patrol. In later years, the paratrooping of fire fighters and their gear was developed at the Missoula headquarters. The mechanization of fire fighting with bulldozers, power pumps, and truck tankers supplemented the sweating hand labor of earlier days. With new road-building machines and more road-building money, the Service slowly gained on its staggering obstacle of inaccessibility and slow dispatch in getting to fires. After the first 25 years, the national forests were immeasurably safer than in 1905; but their protection, not only from fire but from the heavy tribute exacted by insects and fungi, still held first place on the management work sheet.

The Forest Service never lost the crusading spirit of its founder. The responsibility of administering the largest forest enterprise in the Americas did not stop its quest for new worlds to conquer. Educational material—scientific, popular, propaganda—flowed steadily from the Department presses. Service foresters examined scores of small woodlands and advised their owners what to do. Field crews inventoried large properties and drew up detailed working plans. The accepted mission of the Service to push American forestry on all fronts was well exemplified by three other continuing activities: 1) Research, extended into every field which lies under the shadow of a tree; 2) The outward spread of forestry through state policies and cooperative state and federal programs; 3) Frequent fact-finding and reporting on national wood supply and the situation of wood-using industries.

The first federal forest experiment station was established at Flagstaff, Arizona, in 1909. Six regional stations were in operation in 1925. One of the great forest laws of the period, the McNary-McSweeney Act of 1928, spelled out the most comprehensive charter of forest research ever adopted by any country. It authorized 16 experiment stations and investigations in seven fields of forestry and wood utilization. Another provision of this law set up a continuing census of national

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wood supply, growth, and drain; and the gathering of facts necessary "to balance the timber budget of the United States."

The foresight of the early leaders in American forestry was never more clearly shown than by their emphasis upon research in forest products and wood utilization. It started under Dr. Fernow in the old Bureau of Forestry. The Forest Products Laboratory at Madison, planned by Gifford Pinchot, was launched upon its notable career by Chief Forester Henry S. Graves in 1910. Its wide-ranging programs reached every forest industry in the country and practically every form of wood use. The Laboratory's conferences and industrial contacts started innumerable chain reactions in wood economics and new techniques; and stimulated a tremendous volume of professional and industrial research. Among many notable triumphs was the successful pulping of Southern pine for practically every type of paper and, with this great new industry in the South, the birth of the most impressive wave of commercial forestry in world history.

To the early drive for better use of the tree, we may attribute the remarkable role of wood technology in American forestry. The technologist in the mill has often blazed the way for the forester in the woods; and the values created for weed trees and for mill and logging wastes have given commercial tree growing much of today's economic strength.

The Forest Service found a stout ally for improving the utilization of wood in the Department of Commerce under Secretary Herbert Hoover. The whole lumber industry was organized by Wilson Compton, head of the National Lumber Manufacturers Association, for the discussion and adoption of American standards in lumber sizes and dressings; and the final "battle of the 32nd of an inch" was fought under Secretary Hoover's personal umpiring. In 1925, a national conference on wood utilization was instigated by Agriculture and Commerce. A notable congress of lumbermen assembled in Washington on call from Calvin Coolidge; and listened to a terse homily on wood thrift by a very thrifty President. From this event dated the active interest of the Department of Commerce in wood-using industries and their markets. It was headed for several years by an aggressive, wood-minded young Swede, Axel Oxholm.

The great flood of 1927 in the

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W. T. Dickerson, President

lower Mississippi was a potent incentive to greater activity in forest and water relationships. The potentialities of the disaster for publicity were immediately seized by Mayor (Big Bill) Thompson of Chicago, who called a national conference on flood control before the waters had subsided. Before these proceedings were ended, the Service had undertaken to find out what woodlands in the 800 million acres of the Mississippi Basin may exert a helpful influence on flood behavior. Inevitably the Service was taking an active part in the national attack upon uncontrolled waters.

American forestry at first was centered on *national* undertakings like the Reserves from the public domain. Both Roosevelt and Pinchot were national in their political thinking. But they foresaw the importance of *federalizing* their movement. At a conference of state governors called in 1908, the President not only stressed the need for national leadership in resource conservation but made it an obligation of every state. Not long after, G.P. commissioned Edward (Nick) Carter and me to dip our pens in blood and iron and draft letters for his signature to a lot of state governors. We were enjoined to set forth "with lots of punch" the forest situation and needs of each state. An office of state cooperation was established under Girvin Peters. The active promotion of such projects as resource surveys, laws to prevent forest fires, and the creation of state forests was soon under way.

After the Weeks Law of 1911, state forestry followed a more uniform pattern. The act offered federal cooperation, indeed dollar for dollar, in protecting the watersheds of navigable rivers from forest fires. This offer gave every state a clear-cut objective on which to focus its efforts. It also provided opportunity for teamwork with the government, for conferences innumerable, inspections on the ground, the interchange of new ideas and techniques. The cooperative idea took hold. It became a powerful factor in our conservation thinking. Its strength was revealed after World War I when forestry again came to the front as an important piece of "unfinished business."

We were deeply concerned, in 1920, over the danger of a "timber famine" and the slow progress in forest renewal on private lands. How could the United States bring about good management on the 75 per cent

of its woodlands in commercial and farm ownership? Mr. Pinchot advocated direct federal control of cutting practices. It was the only way, he believed, to protect the "paramount public interest." Civic and industrial groups formed the National Forestry Program Committee and sought an effective answer somewhere short of federal police power. The Goodwillie Committee of the Chicago Chamber of Commerce toured the country on a fact-finding mission. We had four years of hearings, discussions, and medicine making. In the end, *Cooperation* won the day. Under the leadership of the canny Scot from Oregon, Senator Charles L. McNary, Congress enacted another great law. The Clarke-McNary Act of 1924 made cooperation and education the cornerstone of federal relations with states and private forest owners. Cooperation in protection from fire was extended to all the forests in the country. The government also joined the states in: 1) developing constructive types of forest taxes; 2) growing and distributing forest-planting stock; and 3) educating woodlot owners in good tree-growing practices.

One of the fine conceptions of the Clarke-McNary Act was its recognition of the private forest owner as a third partner with the state and nation. The law became a great force in spreading out the forest activities of our people—out and down to the grass roots. It has brought the resources and initiative of the states strongly into play. The states have not only supported the specific objectives named in the act, they have led out on many original and distinctive trails of their own—in deferred taxes on timber crops, educational and cooperative schemes for bettering forest management, indeed direct statutory control of destructive cutting practices. I look upon the Clarke-McNary Act as a reactor. It set in motion many of the currents which are now making forestry part of the established order of a democratic people.

The crusade of 50 years ago strongly headlined the depletion of the national woodpile. The impending "timber famine" was one of its potent political slogans. Mr. Pinchot cast about his shoulders the mantle of forest prophet; and, like the mantle of Elijah, it was passed

(Turn to page 81)

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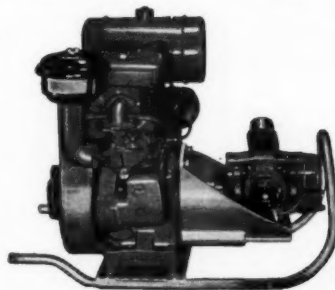
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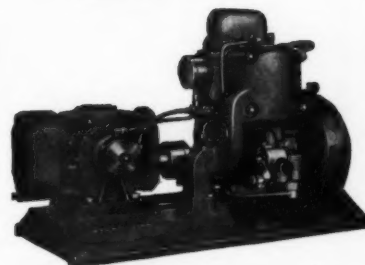
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July 29 to August 8; August 12 to August 22  
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August 12 to August 22; August 28 to September 7  
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#### MOUNT RAINIER NATIONAL PARK, WASHINGTON

August 10 to August 20  
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THE AMERICAN FORESTRY ASSOCIATION

919 Seventeenth Street, N. W.

Washington 6, D. C.

## The First 25 Years

(From page 79)

on to the men who followed him. The Service has always taken seriously the business of informing the public about the balance between wood consumption and supply; also of interpreting the current economic and industrial situation. When he instituted lumber price and market reports in 1909, Mr. Pinchot himself said, "We must keep abreast of the wood-using industries."

The first of many estimates of standing timber was made by the Service in 1907. It showed a stand of 2,500 billion feet, an annual lumber cut of 40 billion, and annual growth of only one fourth as much. In 1914, the Service joined the Bureau of Corporations in a study of the factors controlling lumber production and marketing. A year later we toured the country with members of the Federal Trade Commission trying to discover what was wrong with the lumber industry. And in 1917, the Service published its own

comprehensive analysis of the ills which beset our sawmills. They boiled down to the overburden of stumpage investments, brought on by free public timber, speculation, and high capitalization. The lumber industry was demoralized by recurring overproduction and the competition of new building materials.

After the first World War came the monumental report to Congress on "Timber Depletion; Lumber Prices; Concentration of Timber Ownership." It was in response to a resolution by Senator Capper. It supplied much of the factual ammunition for the hot battle over federal regulation. In 1923 the forest and land situation was again reviewed and pointed up for the Select Committee (McNary) of the United States Senate. Meanwhile, the indefatigable beavers of the Forest Service took on a study of the raw material supply and needs of wood-using industries, state by state. And



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The incessant reporting of forest facts and searching the horizon for realistic answers were just part of the missionary spirit of the young Service. We were seeking "the greatest good of the greatest number," in every direction. We were impatient of the restrictions of official red tape. We modified administrative regula-

tions overnight to fit new conditions on the ground. We had only scorn for the traditional rebuff of an entrenched bureaucracy, "it has never been done."

I believe that willingness to try anything and enthusiasm for public welfare were the outstanding qualities of the Forest Service. We made mistakes, of course. At times we were visionary; at times, self-righteous. Our trumpets were never silent. But we blazed our way into a new field of national interest with the power of great ideals.

## The Second 25 Years

(From page 19)

developed earlier. The snow cruiser did rescue work in Alaska and Labrador.

### The National Forests

In the matter of overall size the national forests of the West did not change much during the quarter century. Those in the East and South did, due largely to the vision of President Franklin Roosevelt in providing purchase money in the days of the Civilian Conservation Corps. Substantial areas of national forest now exist in every major forest type in the country except in the California Coast redwoods and the hardwoods of the Mississippi Delta.

In the West a number of gaps in federal ownership inside national forest boundaries have been filled by acquisition through exchange, mostly a trade of national forest cutting rights for land. Cutover private lands which owners would not or could not afford to keep have been added to Uncle Sam's permanent tree farm. Some uncut lands which

the owners would have cut clear have been obtained and placed under selective cutting management.

In both East and West considerable forest land acquired under the depression-born resettlement program has been added to the national forests.

But of much greater significance is the steady growth in the use of the national forests and their contribution to the public good and enjoyment. "Multiple use" and "sustained yield," the major principles on which the national forests are managed, have become common and popular terms.

Both the public and Congress have shown in many ways their support of the national forests, especially when threats to their integrity have appeared. Adverse grazing legislation was repeatedly and successfully fought; a chamber of commerce project to sell the Texas national forests to private timber operators quickly had its ears knocked down. Much legislation to strengthen national forest protection and administration has been enacted.

The Forest Service has been thoughtful and diligent in finding ways to make the national forests serve human needs. In periods of depression the national forests have furnished work opportunities for the unemployed; in normal times they provide or supplement livelihoods for a host of small family enterprises. It gives the foresters special satisfaction to see a family in the Ozarks extracting a cash income from a small sale of national forest timber to be made into fence posts. The Forest Service administered a few actual resettlement undertakings in which families from up the creek

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were established in new homes on small tracts of good farm land.

When the CCC made possible many developments in the forests, the Forest Service gave priority to installing camp and picnic grounds where people could come in abundance for simple forest outings. Organization camps were built to provide periodic vacations under community auspices for children who otherwise could not have enjoyed a stay in the forest.

Timber use has grown apace. In 1930 the national forest timber cut was slightly over 1 billion board feet; in 1954 it was over five and a third billion. Still the sustained yield capacity has not been reached, and cannot be until more access roads are provided.

All national forest timber is harvested under management plan control. Forest practice has grown more and more intensive as research, experience and better markets have come into play. In some southern forests thinnings or harvest cuttings are made every three years. In the Douglasfir country where earlier logging left then unmarketable material on the ground, relogging is clearing up much of it.

Competition to purchase national

forest timber has grown keener and keener. On one occasion oral bidders vied with each other for six hours. This sort of competition pushed stumpage prices to heights that earlier foresters would never have dared dream about. Paper mills in the Lake States are hauling national forest pulpwood from Colorado and Montana.

Under the Cooperative Sustained Yield Act of 1944 the Shelton Cooperative unit has been established in Washington, resulting in a combination management of private and national forest timber which has not only stabilized two towns but has given them new industries and many public facilities otherwise unattainable. Five "federal" units—consisting solely of government timber, have been established for the permanent support of dependent communities.

Planting, thinnings and the release of plantations from undue competition have not been able to keep pace with needs, but gained an impetus in CCC days which has not been wholly lost.

The crowning timber event of the closing years of the second half of the Forest Service young manhood was the dedication of the big new

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pulp mill on the Tongass National Forest in Alaska. This was the first great achievement in the diligent campaign of many years by the Forest Service to put Alaska's remote forests to work in a big way. Other similar developments seem to be in the near offing.

Comparable to the huge growth in timber use has been the expanded use of the national forests for recreation. In 1954 nearly 40 million visits were made to the national forests by persons who actually used camping, picnicking, winter sports and other facilities or went for specific purposes such as hunting and fishing. Many campgrounds were overtaxed.

In 1940 the Forest Service published "Forest Outings" a comprehensive exposition of the opportunities and satisfactions in forest recreation.

The 14 million acres of wilderness areas in the national forests have gained wide interest and support. At a recent public hearing to discuss a proposed small reduction in one of these areas, more than a thousand statements were introduced, mostly against any shrinkage of the area.

It took a court test to convince some dissenters that a Presidential order establishing an airspace reservation over the Superior Wilderness Area in Minnesota, designed to prevent invasion by planes, not only had wide public support but also convincing legal backing.

In some winter sports areas the Forest Service pioneered in avalanche warnings and control, shooting down some pending avalanches with artillery to make them occur when no one was skiing nearby.

A modest charge system was established for some of the larger campgrounds in response to Budget and Congressional requests that use of special facilities be compensated.

Recognizing the importance of the national forests in the West as the principal home of most big game and major hunting and fishing grounds, and the eastern and southern national forests as having important wildlife values, the Forest Service has utilized every available means to give this resource its rightful place in multiple use management. A new Division of Wildlife Management was established in the Washington Office in 1936. The Forest Service works closely with the states, which administer the game laws, in a partnership in which the national forests provide the habitat and the state regulates hunting and fishing.

Where possible, the Forest Service takes steps to improve the conditions for game and fish by such means as conserving den trees, planting game food species, stream improvements and other measures. Under a number of cooperative agreements with states special game management areas have been set up.

In range management the continuous effort of the Forest Service has been to apply the best possible sustained yield management to the national forest ranges. Through application of research findings, the development of area management plans, reseeding, installation of range improvements and reductions in numbers on overgrazed ranges, great progress has been made. But much remains to be done.

Unsuccessful efforts of some stockmen to obtain legislation which would give national forest graziers unfair advantages over other interests in the national forests at times caused strained relations. In the main, however, stockmen have cooperated, through some 800 area advisory boards and otherwise in advancing the application of sound management to the ranges.

Protection of the national forests against fire, disease and insects has encountered and overcome many problems. Over the long pull, fire damage has steadily decreased despite greatly increased use of the forests. Remarkable ingenuity has been displayed in developing mechanical means of fire suppression. The smokejumpers have kept many a fire small. Helicopters have augmented airplanes in suppression work. Fire under controlled conditions is now used in the South to remove worthless inflammable undergrowth and wipe out brown spot disease in little pines.

Insect and disease control has been more perplexing than fire. No sooner does one pest outbreak seem conquered than a new one appears. The Forest Service has teamed up with the states and private owners, and with researchers of Department of Agriculture to war on the enemy.

Among the more spectacular successes, in which DDT and other insecticides developed by the research people were featured, were the complete wipe out of the tussock moth attack in Idaho in 1947; halting the spruce budworm on over 3 million acres in Oregon and Washington; and stopping the very aggressive Engelmann spruce barkbeetle in central Colorado.

(Turn to page 86)

# FORESTRY ITEMS IN THE FEDERAL BUDGET

Fiscal Year Starting July 1, 1955

U. S. DEPARTMENT OF AGRICULTURE	1954-1955 Estimate	1955-1956 Budget Request
<b>Forest Service</b>		
National Forest Protection & Management		
Resource protection and use	\$ 29,240,200 <sup>a</sup>	\$31,111,150
Resource development	1,300,000	1,300,000
Additional flood prevention measures	200,000 <sup>b</sup>	.....
Fighting Forest Fires	6,000,000	5,250,000
Control of Forest Pests		
White pine blister rust	2,570,000 <sup>c</sup>	2,570,000 <sup>c</sup>
Forest pest control act	2,367,500	2,367,500
Forest Research		
Forest and range	3,609,630 <sup>d</sup>	3,809,630
Forest protection	1,242,704	1,253,204
Forest products	1,231,318	1,231,318
Forest resources	959,848	959,848
Forest Roads and Trails	22,500,000 <sup>e</sup>	24,000,000 <sup>f</sup>
State and Private Cooperation		
Fire control	9,449,500	8,365,810
Tree planting	447,061	447,061
Forest management and processing	632,429	632,429
General forestry assistance	154,700	154,700
Cooperative Range Improvements	400,000	280,000
Acquisition		
Weeks Act	125,000	.....
Special Acts	10,000	.....
<i>Total Annual &amp; Definite Appropriations</i>	<i>\$ 82,439,890</i>	<i>\$ 83,733,000</i>
Indefinite Appropriations (From Receipts)	\$ 26,525,870	\$ 25,572,300
<b>TOTAL FOREST SERVICE</b>	<b>\$108,965,760</b>	<b>\$109,305,300</b>
<b>Extension Service (Forestry only)</b>		
Forestry Guidance	\$ 21,018	\$ 21,018
Payments to States and Territories Under Clarke-McNary Sec. 5	88,000	88,000
	\$ 109,018	\$ 109,018 <sup>g</sup>
<b>Watershed Protection</b>	\$ 7,250,000 <sup>h</sup>	\$ 11,000,000 <sup>i</sup>
<b>Flood Prevention</b>	\$ 7,482,000	\$ 8,700,000 <sup>j</sup>

<sup>a</sup> Includes \$250,000 in supplemental appropriation for work under Public Law 633.

<sup>b</sup> Item is now included in Soil Conservation Service—flood prevention.

<sup>c</sup> Includes \$355,000 for blister rust control work by Department of the Interior for 1956 (\$360,000 in 1955).

<sup>d</sup> Includes \$505,000 supplemental appropriation.

<sup>e</sup> Includes \$6,500,000 supplemental appropriation.

<sup>f</sup> \$17,100,000 for construction; \$6,900,000 for maintenance.

<sup>g</sup> Extension forestry, formerly funded through Clarke-McNary authority, now is included in overall Smith-Lever Act funds.

<sup>h</sup> Includes \$1,750,000 supplemental appropriation.

<sup>i</sup> Includes \$495,000 for Forest Service.

<sup>j</sup> Includes \$1,019,000 for Forest Service.

## U. S. DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

Management of Lands and Resources		
Forestry	\$ 2,613,000	\$ 2,613,000
Cadastral surveys	1,533,000	1,473,000
Soil and moisture conservation	1,718,000	2,718,000
Squaw Butte Experiment Station	38,000	38,000
Fire suppression	210,000	210,000
General administration	990,000	990,000
Other (lease and disposal of land, grazing, maintenance, weed control)	4,577,900	5,358,000
Access Roads (O & C Lands)	2,500,000	2,500,000
Range Improvements	387,976	587,000
<b>Total Bureau of Land Management</b>	<b>\$ 14,566,900</b>	<b>\$ 16,487,000</b>

### Bureau of Indian Affairs (Forestry & Related)

Forest and range	2,085,000	2,085,000
Fire suppression	140,000	140,000
Road and trail construction and maintenance	8,840,328	7,000,000

### National Park Service (Forestry & Related)

Forestry and fire control	613,000	634,795
Roads	4,250,000	4,250,000

## TENNESSEE VALLEY AUTHORITY (Resource Development Only)

Forestry	431,000	471,000
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## The Second 25 Years

(From page 84)

The Forest Pest Control Act of 1947 gave added stimulus and solidity to the united front of team counter-attack on insects and disease.

The Forest Service is having hard going protecting the national forests against grave misuse of the mining laws. Congress is considering modifications which would discourage filing of claims designed to bottle up valuable timber or gain other advantages unrelated to bona fide mining.

It is fair to say that the national forests have in many ways been the backbone of the development of forestry as a land use in the United States. They have afforded practical demonstrations of good and profitable forest practice and of immeasurable public benefits in the wise use of forest land.

### State and Private Forestry

The Forest Service has always regarded promotion of state and private forestry as one of its three main responsibilities. It has administered the federal part of the various federal-aid programs in fire and pest control, forest planting and advice to forest owners. It has undertaken some direct activities such as the great fire hazard reduction and timber salvage operations after the 1938 New England hurricane, the shelterbelt project, and the Naval Stores Conservation program.

The Forest Service, the state foresters and the forest industries share the credit for great increases in federal aid in forestry, the growth of state forestry, the passage of a wide array of state forestry laws, including some regulatory measures, the growth of good forestry practice and sustained yield on private lands, creation of a number of farm-forest cooperatives, the growing number of community forests, and a good many other developments which, combined, make a record of great progress.

Some indication of this progress is found in growth of areas under organized fire protection. Under the cooperative federal-state program, 221 million acres of forest land were brought under protection in 1933. By 1954, this total had jumped to 374 million acres. In distribution of trees under this federal-state setup, only 79 million were being distributed in 1930 compared to 500 million in 1954. Under the coopera-

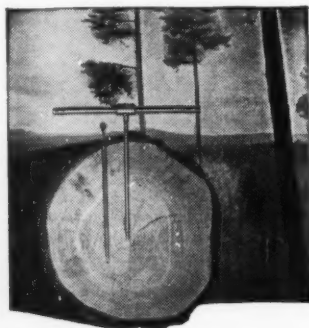
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tive forest management program, 274 state-employed foresters in 1954 gave on-the-ground technical aid to over 32,000 small forest land owners.

This progress in cooperation augurs well for the still big job ahead in further extending fire protection, planting and forest management on the holdings of four million small forest-land owners.

### Water and Watersheds

No agency has done more than the Forest Service to educate the American people in the nature of their watershed problems. As early as 1910 the Forest Service and the Weather Bureau were conducting a watershed study at Wagon Wheel Gap in Colorado. Beginning with the Weeks Law in 1911 watersheds were especially featured. In later years, under the Flood Control Act of 1936, and other measures, the Forest Service has conducted surveys to discover what ailed bad-acting watersheds; done repair work on a number of watersheds by increased protection against fire and by planting and small dams; participated in the forest watershed aspects of Reclamation Service and Army projects; contributed fruitfully to the work of the President's Water Policy Com-

mission in 1950, taken part in massive river basin surveys and reports; co-operated with state foresters in the small watershed program authorized in 1953; and carried on a broad program of research in forest influences which has shed powerful light on watershed problems and given watershed doctors many a sound prescription.

In a number of outstanding cases big property loss and possibly loss of lives has been averted by emergency measures devised and applied by the Forest Service. Notable has been the sowing of burned slopes in southern California with mustard to keep whole hillsides from going to the valley until natural soil-anchoring revegetation could restore itself. Equally striking was the repair work done on rampaging watersheds in Utah which periodically sent tons of debris and chickenhouse size boulders crashing into houses and across farm lands, railroads and highways. Several Utah communities were so impressed with the Forest Service as a "watershed doctor" that they bought misused private lands on their watersheds to turn over to the Forest Service as additions to the national forests.

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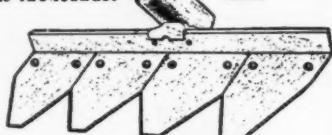
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importance of the national forests as watersheds, especially in the West. Here, over 1800 communities depend completely on the national forest water; practically all the important streams in the West which support the vast irrigation and power systems head in the national forests.

## Research

One could use the entire space devoted to this history to tell of the things the researchers of the Forest Service have discovered to advance the cause of forestry and range management in the United States—and in many cases beyond this country's borders. Particularly since the McSweeney-McNary Act of 1928 gave them a new and greater charter, and with special credit to Earle Clapp, who led Forest Service research into a place of world leadership. The research organization of the Forest Service has expanded into a chain of forest and range experiment stations blanketing the United States, Alaska and the Caribbean, with supplementary research centers and experimental forests and ranges designed to embrace all the major forest and forest range types of the country.

In 1932 came the new Forest Products Laboratory at Madison to replace the outgrown one. In 1936 the Eddy Forest Genetics Institute at Placerville, California was made a part of the Forest Service research organization. Here, by cross breeding, several better, faster-growing trees have been developed.

The fire lookouts, the fire fighters, the forest and range managers, the users of wood in all forms, the architects of laws and broad forest conservation policies, have built and improved their works in large measure by virtue of the products of the researchers of the Forest Service. Other agencies, like the Weather Bureau with its fire-weather forecasts, have helped immeasurably.

These men in research have not stayed in the laboratory; they have carried their findings to the men on the line and helped to apply them. Time and again they have responded to emergency calls, both in war and peace.

In 1954, as a step in concentrating all elements of forest research in one place, the Secretary of Agriculture transferred to the Forest Service the plant disease and forest insect research units of the Bureau of Plant Industry, Soils and Agricultural Engineering and Bureau of Entomology and Plant Quarantine. Along

with the research activities came the white pine blister rust control and pest control survey functions to be added to the administrative responsibilities of the Forest Service.

## Join the Service and See the World!

The Forest Service spread its interest and cooperation over the forests of the world in 1945 when it helped set up the forestry branch of the United Nation's Food and Agriculture Organization. Several Forest Service men joined that branch and the Chief of the Forest Service was made chairman of its standing advisory committee.

Forest Service men were chairmen of the U. S. Delegations to the Second and Third World Forestry Congresses, the former in Budapest in 1936, the latter in Helsinki in 1949.

In 1945 the Chief of the Forest Service was chairman of an American Committee to recommend a disarmament policy for Germany's forests.

The 1952 annual report of the Chief of the Forest Service featured a concise size-up of the world forestry situation, with some observations on range lands as well.

Loans or transfers to the staffs of U. S. foreign aid agencies have sent Forest Service men almost all over the world—South America, Japan and Korea, Germany, southeast Asia, Africa and the Near East. Training courses and trips to United States forest regions have been conducted for many foreign foresters.

## Business in Government

By both necessity and tradition the Forest Service has tried to make every operating dollar go a long way. It developed a method of measuring workloads for the best distribution of men and money and a system of work plans that won it wide acclaim in administrative management circles.

A policy of voluntary early retirement has helped keep the Service a relatively youthful outfit. Training of personnel has been brought to a high level. The District Forest Ranger has evolved from the sturdy, practical type admirably suited to the earlier days into a professionally trained forester who is the actual manager of all the resources on his district.

Overhead has been kept down so as to put the maximum amount of the manpower and funds out on the line. As the automobile increased mobility, and as means of communi-



cations improved, national forest and research unit consolidations have been made so that fewer men administer larger units.

Machines have been devised or adapted for more efficiency and economy. The Forest Service was the originator of the bulldozer, of a new mapping technique—the KEK stereoscopic plotter—which revolutionized making maps from photographs, and of many other time and money-saving devices.

Successful administration of the national forests is not measured primarily in dollars, but it is gratifying to have the cash register jingle to the point where for the past several years the yearly income from the national forests, now around 70 million dollars, has exceeded the annual outlay for both operating expenses and capital improvements.

### Ideals and Careers

Greeley, in his chapter, has shown how high ideals from the beginning spurred the Forest Service to drive constantly for a dynamic type of forest conservation to serve the people. These ideals have persisted. The men and women of the Forest Service are still dedicated to the spirit of public service. This is one of the compelling forces which have attracted men to make the Forest Service and public service a career, together with the confidence that advancement would stem from demonstrated ability and not from political preferment. It has kept the Forest Service free of partisanship and gained the support of both political parties.

### Teamwork

Cooperation and regard for the advice of others has been a cardinal principle with the Forest Service. It has worked with and in most cases prompted the formation of many groups such as the Association of State Foresters, the Forest Industries Council, a Forest Research Advisory Commission, a National Forest Advisory Council, over eight hundred grazing advisory boards, several regional and national forest advisory councils, and a National Forest Advisory Board of Appeals to hear and advise the Secretary of Agriculture on appeals to him from decisions of the Forest Service. There are many other groups with whom the Forest Service has had fruitful relations in its contact efforts to spread the gospel of good forestry to the public and the owners of forest lands.

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cooperative ventures has been the tremendous help of The Advertising Council in getting business and industry to feature fire prevention in their advertising. In 1954, 8 million dollars of advertising time and space were contributed to the continuing Cooperative Forest Fire Prevention campaign covering forest lands in all ownerships, of which Smokey Bear is the principal symbol.

Teamwork within the Forest Service is one of its outstanding attributes. It runs from top to bottom of the organization. I am sure Chief McArdle will excuse my introducing his name—as a symbol—by closing this chapter with another quotation from President Eisenhower's talk dedicating the new smokejumper headquarters at Missoula last September:

"I am not at all astonished that it (the Forest Service) is such a

good outfit. Within the last week I have had a little proof of the qualities of leadership of Mr. McArdle himself. It has not been my good fortune to know him, but only two nights ago, in Fraser, Colorado, I was visited at my cabin by a cook, a cook in the Forest Service. He said, 'I read in the paper you are going to Missoula. There you will see my boss, Mr. McArdle. Give him my greetings and best wishes.'

"I was long with the Army, and I have seen some of the finest battle units that have ever been produced, and whenever you find one where the cook and the private in the ranks wants to be remembered to the General, when someone sees him, then you know it is a good outfit."

## The Forest Service Looks Ahead

(From page 23)

for leadership. That is a good thing. It should put us on our mettle. The Forest Service is a respected organization. Its traditional strength has been a threefold approach to forestry—through the national forests, through cooperative responsibilities with states and private owners, and through research. This cohesiveness and unity must never be shattered.

The Forest Service has many second generation men, and some of the third generation. You men and women of the mid-century Forest Service belong to a different organization than the pioneering group of crusaders Pinchot gathered about him. The Forest Service is a big organization and, as such, some of the personal touch of that earlier and much smaller organization is bound to be missing. This is one of the penalties of bigness. The Forest Service is also a mature organization, and one of the penalties of maturity is a tendency to be taken for granted. Organizational maturity sometimes dulls the workers of today to the traditions inherited from yesterday.

Moreover, in 1955 we live in different times. We cannot recreate the initial crusade for forestry any more than we can rediscover America. That crusade was pointed toward creating a widespread public awareness of our need for the products

and services of forest lands. It was aimed at awakening interest. For a long time it was a voice crying in a steadily vanishing wilderness, pleading that forest landowners manage their lands for permanent productivity. Although some oldtimers may disagree, I think our task in the next half century is more concerned with action than it is with publicity. Our predecessors succeeded better than I think they may realize in awakening interest. Our job is to put that interest to work, to show how to make forest management pay for itself. And to do this on a big scale. The time is ripe to do what those early-day crusaders deeply longed to do.

For half a century the dominant characteristic of the Forest Service has been expressed in one word—Service. This deeply ingrained spirit of service to the nation must be sustained. The Forest Service must shunt off the evils that more often than not go with a big and mature bureaucracy. We must avoid, as we would avoid the plague, the evils of complacency, self-satisfaction, stagnation, and arbitrariness. Never forget that our policies, our decisions, and our actions every day affect the economic livelihood, comfort, happiness and well-being of thousands of our fellow citizens. Food, shelter, and fiber are essential to mankind, and the Forest Service has a stake in providing all three.

To the Forest Service of the past, I salute its men of vision, high purpose, tenacity, and aggressiveness. As one of their great past Chiefs has said, "Their trumpets were never silent." A multitude of obscure men, unsurpassed for hard work, character and devotion to duty blazed the trail for American forestry. Their leadership must never be forgotten. They achieved a measure of success on the national forests; they led, persuaded, and even drove others into forestry on other areas; they acquired knowledge and skill and the will and capacity to grow; they emerged scathed but alive from the battles for survival. Let present-day claimants to forestry virtue remember that in one way or another they

were sired, nourished, prodded, and built up by the Forest Service of the past.

To the Forest Service of the future, I pass on a challenge, an opportunity, and a great public trust. The pressures upon you will be even greater than those we are experiencing today. The going will get rough. You will be attacked by special interests. There will be tough decisions to make and there will be times when any decision is the wrong one to some people. Your creed must always be to serve all of the people all of the time. In reaching your decisions and making your policy, may you earn the right to continue to use the Forest Service motto of "the greatest good of the greatest number in the long run."

## What's on the Horizon?

(From page 27)

dous job of harmonizing the various uses on the forests — water supply, mining, grazing, recreational use and wildlife development.

And as the men of the Service apply new methods and new measures in making our national forests truly productive it will be up to organizations like The American Forestry Association, the wood industries, the recreationists and all the other groups vitally concerned with wise management to see to it that these young foresters, on whom so much depends, are left free to make the right decisions in terms of "the greatest good of the greatest number in the long run." We must see to it that they are not hamstrung by unwise laws or rulings yielding to expediency. We must see to it that they are not left in the lurch by organizations and groups with kindred interests on whom they have every right to rely and depend.

For the AFA and other interested groups and agencies face a challenge, too. That challenge is to have the moral stamina and the integrity to back its professional representative in the field to the hilt when they are pursuing policies and objectives in keeping with our democratic way of doing things. In other words, when they are pursuing the right policies, on the right track.

And make no mistake about it,

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## Conservation's Ever-Widening Stream

(From page 29)

you do, in addition to the obvious ones, such as the Forest Service, Fish and Wildlife Service, Bureau of Land Management, Soil Conservation Service, National Park Service, Bureau of Reclamation, be sure to include the Civil Aeronautics Authority, the Civil Aeronautics Board,

merce Department, State Department, Federal Communication's Commission, Federal Land Banks, General Accounting Office, General Services Administration, Public Health Service, Weather Bureau, and several others. At first glance, they seem to be remote from conser-

## CAN YOU ADD TO THIS LIST?

The Advertising Council; American Banker's Association Committees on Soil and Forest Conservation; American Farm Bureau Federation; American Forestry Association; American Forest Products Industries, Inc. American Geographical Society; American Legion; American National Red Cross; American Nature Association; American Nature Study Society; American Planning and Civic Association; American Pulpwood Association; American Society of Mammalogists; American Society of Range Management; American Tree Association; American Watershed Council; Association of Consulting Foresters; Association of State Foresters; Better Fishing Inc.; Boy Scouts of America; Boyce Thompson Institute for Plant Research; Camp Fire Girls; Chamber of Commerce of the U.S.; Charles Lathrop Pack Forestry Foundation; Conservation Education Association; Conservation Foundation; Council of Forestry School Executives; Council of State Forestry Association Executives; Ecological Society of America; 4-H Clubs; Forest Conservation Society of America; Forest Industries Council; Forest Products Research Society; Friends

of the Land; General Federation of Women's Clubs; Girl Scouts of America; Grassland Research Foundation; Holly Society of America; Institute of Public Administration; Izaak Walton League of America; National Association of Soil Conservation Districts; National Audubon Society; National Conference on State Parks; National Council of State Garden Clubs; National Farmers Union; National Fisheries Institute; National Forest Recreation Association; National Grange; National Hardwood Manufacturers Association; National Lumber Manufacturers Association; National Parks Association; National Reclamation Association; National Shade Tree Conference; National Water Cons. Conference; National Wildlife Federation; Natural Resources Council of America; Nature Conservancy; North American Wildlife Foundation; Outdoor Writers Association; Resources for the Future; Society for Scientific Management; Soil Conservation Society of America; Sport Fishing Institute; Wilderness Society; Wildlife Management Institute; Wildlife Society; Women's Conservation League of America.

Rural Electrification Administration, Atomic Energy Commission, Bureau of Public Roads, Bureau of the Budget, Committee on Intergovernmental Relations, Committee on Organization of the Executive Branch, Defense Department, Com-

vation. However, every one of them has influence in some form or other on what we do with our natural resources.

What does all of this mean to conservation? Many times during my  
 (Turn to page 95)



# What's NEWS across the nation

## STEPPED UP ACTION PROGRAMS AIMED AT CARRYING OUT AFA'S "PROGRAM FOR AMERICAN FORESTRY"

were reported by the ten regional foresters of the Forest Service in a "Regional Roundup" prepared for this 50th anniversary issue. The year 1955 will see Region 1 (Montana, northwestern Washington, northern Idaho and northwestern South Dakota) accelerating its all-out campaign against the spruce bark beetle infestation. According to Regional Forester P. D. Hanson the sales volume in this program is estimated at 416 million board feet, an increase of 25 percent over 1954. Plans are being developed to undertake control operations on a heavy infestation of spruce budworm in the Douglasfir type of Idaho and Montana. There are an estimated 2,100,000 acres of this type now infested of which about half is federally owned.

REGION 2 (COLORADO, KANSAS, NEBRASKA, SOUTH DAKOTA AND WYOMING) reports that pressures for a variety of uses continued to grow in 1954. Over six million people flocked to Rocky Mountain forests in search of recreational outlets in 1954, an increase of 10 percent over 1953 and a 314 percent increase over the pre-war days of 1941. The Region 2 forests are feeling the full impact of the mining boom, reports Regional Forester Donald E. Clark. Thousands of new claims were filed in 1954, spearheaded by the "uranium rush". The interest in "new minerals" such as titanium, lithium, columbium and others once considered only scientific curiosities, is now notable. Timber sale activity in this region continued about the same as in 1953.

REGION 3 (ARIZONA AND NEW MEXICO) reports that the timber harvest is being maintained at a stable level of 250 million board feet annually, or about 80 percent of sustained yield capacity. Last year saw this region carrying on improvement work on 45,000 acres of timber, placing 240 miles of highway construction under contract and 50 million board feet of timber under contract in insect infested areas as a salvage measure. Regional Forester C. Otto Lindh also reports that last year saw the installation of the Southwest's first pulp mill (25 tons) and it will utilize small stem thinnings.

REGIONAL FORESTER C. J. OLSON REPORTS THAT REGION 4 (Utah, southern Idaho, western Wyoming and Nevada) last year completed an airplane spray job on 250,000 acres of ponderosa pine infested by the pine butterfly. The forest industries and the state of Idaho gave full cooperation. Values at stake in these infested areas total half a billion dollars. More insect control work is slated for this year. Forester Olson also reports that his region is cooperating with the Soil Conservation Service and communities in 14 small watershed flood prevention projects.

INCREASING POPULATION PRESSURES IN CALIFORNIA (the state is adding almost a third of a million people a year) are resulting in new demands upon lands and resources reports Regional Forester Clare Hendee in Region 5. If this increase continues at the same rate for the next decade, California will have 25 percent more people to feed and house than it has now. The demands of these people upon the lands and resources of the national forests of California, which comprise 20 percent of the overall land area, increases in proportion as the "elbow room" outside the forests is used up. Additional water for domestic use and water for food crops must be developed, Mr. Hendee stresses. Most of this must come from the national forests. About 90 percent of the potential hydroelectric power is in the mountain areas. Almost half of the remaining saw-timber stand in the state is in the national forests. The need for de-

(Turn to next page)

velopment of the water and the timber, together with meeting the demand for mountain recreation, hunting and fishing, forage for domestic stock, and all the other resources makes for an extremely complicated job of administering those areas.

THE 18 NATIONAL FORESTS IN REGION 6 (OREGON AND WASHINGTON) contributed 2,585 million board feet for almost 35 million dollars in 1954—their highest volume and timber cut in history, Regional Forester J. Herbert Stone reports. Additional aerial spraying during 1954, in the largest forest insect control project ever undertaken in the world, has successfully controlled spruce budworm on three and a quarter million acres in various ownerships since 1949. Notable progress was also made in reducing the Douglasfir bark beetle epidemic through harvesting windthrown and beetle-killed timber. Recreational use continues heavy, Mr. Stone said. Visits to national forest winter sports areas—601,000 in the 1953-54 season—were up 19 percent over the previous year.

THE EFFORT TO GO MODERN IN MINING FOR COAL IS CURRENTLY CAUSING PROBLEMS in mountainous eastern national forest areas (Region 7—New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Virginia and Kentucky). Involved are coal deposits reserved by the vender when the land was sold to the government back in the conventional deep-pit mining days. Now proposals are being made to recover the coal by stripping or rim-cutting the high mountain terrain, dropping the earth removed in the operation over-side into the vegetation and drainages below. No objection is raised by Regional Forester Charles L. Tebbe to proper recovery of minerals by conventional processes, where damage can be limited but, in the opinion of the forest administrators, the rim-cutting process, never contemplated at time of sale, would up-end the land, ruining the aspect, culture and water drainage of extensive areas, silting the land and polluting recreational and utilitarian water courses. This would be similar to taking back the surface value and is as objectionable as hydraulic mining, known years ago and prohibited in land purchase contracts.

SOUTHERN NATIONAL FORESTS CONTINUE TO MAKE INCREASED TIMBER CUTS with pulpwood setting the pace Regional Forester Charles A. Connaughten declared in reporting on Region 8 (Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee and Texas). Strong progress has been made in forest resource management and keen interest has developed in forest genetics research with its high hopes for improved tree strains for future forests. Restoration of wildlife in southern forests is progressing well. Southerners are planting 425 million tree seedlings on idle forest land this winter as one step in supplying the South's five billion dollar forest industry.

REGION 9 (ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, North Dakota, Ohio and Wisconsin) starts out on its second 25 years of resource management this year, reports Regional Forester H. Dean Cochran. This year will see the national forests like other forests in the Lake and Central States, continuing their rapid growth into a key position as important producers of raw material for the expanding industries of the region. This year another 16,000 acres on the national forests, together with 120,000 acres of state and private lands, will be added to the two million acres of existing plantations. More than three million visitors are expected to visit these forests again this year.

THE YEAR 1954 WAS A HIGHLY SIGNIFICANT one for the national forests of Alaska, according to Regional Forester Arthur W. Greeley. A new \$52 million pulp mill began operations at Ketchikan. Political and business leaders of the territory have hailed the construction of this mill as an important milestone in the development of the territory. To the forest industry its construction means opening up vast timber reserves which have been locked up because of inaccessibility. The past year also saw three other highly significant developments which give promise to continued expansion in the forest products industry of the territory. On June 9 a preliminary award of a timber sale of three billion board feet was made to the Pacific Northern Timber Company of Wrangell, Alaska. This is the second largest sale from national forests of Alaska. Also, applications have been received for two additional ventures, one for the sale of timber to support a newsprint plant in the vicinity of Juneau and the other for timber in the vicinity of Sitka to support a combined sawmill and pulp mill operation.



## Ever-Widening Stream

(From page 92)

20-odd year career in the Forest Service have I recalled that old statement about "the one big toad in the conservation puddle." This year, 1955, the golden anniversary of the Forest Service, is a good time to appraise the validity of such a statement if it were made today. Now we have hundreds of agencies, groups, organizations, colleges and industries working toward a common goal. Conservation is no longer a puddle, but an ever widening stream. Is any single agency, organization or group the *one* "big toad" today? No! Today there are hundreds of "big toads." Most of them were not even tadpoles in 1905!

So in 1955 there is keen competition in conservation. It's good for the competing agencies and groups themselves. It makes each one raise its sights, broaden its vision and strive to do a better conservation job. It's also good for the public because it gets more things done better. It all winds up with a more accurate job because one group often acts as a check on others. Conservation has progressed!

## Scroll Specialist

W. Ellis Groben, who designed the scroll appearing on page 10 of this issue, is well known for designing beautiful scrolls for presentation to members of the Forest Service upon retirement. Another, and one of the most interesting scrolls, was presented to the first Forest Service Chief, Gifford Pinchot, upon his 81st birthday. His major contributions to forestry, however, are the very attractive Forest Service buildings for which he was the architect. Each blends into its particular setting. Outstanding among these are the Research Laboratory at San Juan, Puerto Rico, the Lodge at Sherando Lake Recreation Area on the George Washington National Forest in Virginia, and the Philipsburg Ranger Station on the Deerlodge National Forest in Montana.

Mr. Groben, who has been chief architect of the U. S. Forest Service since 1937, also has designed numerous public and private buildings and institutions.

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## What is The American Forestry Association?

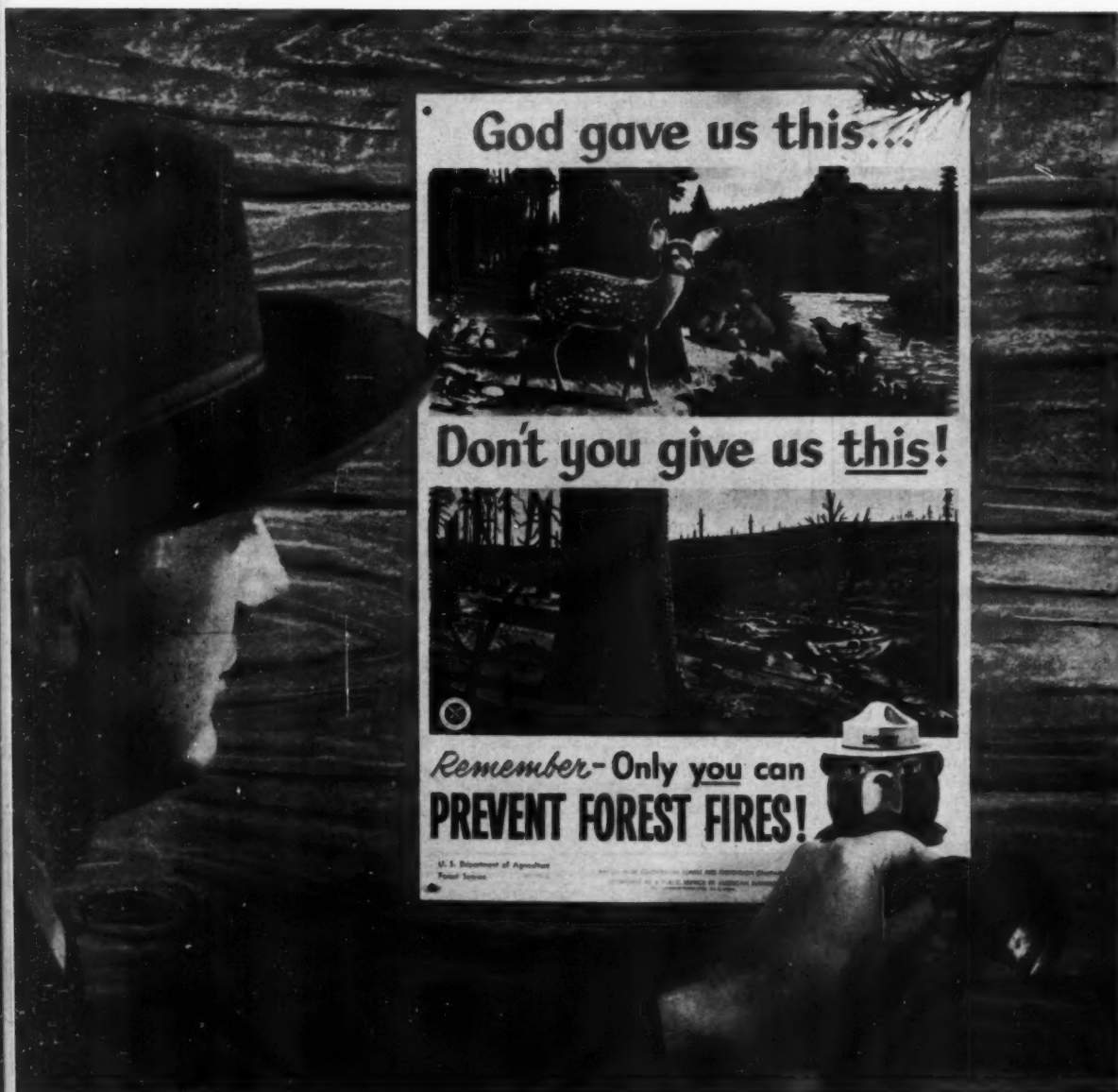
The American Forestry Association is a citizens' organization for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation.

Its educational activities, of which publication of AMERICAN FORESTS is one, seek to bring about a better appreciation and handling of these resources, whether publicly or privately owned, in order that they may contribute permanently and in the highest degree to the welfare of the nation and its people.

The Association is independent. It has no connection with any federal or state governments. It is non-political and non-commercial. All its resources and income are devoted to the advancement of conservation. It has been so operated since its founding in 1875. Anyone interested in conservation is eligible for membership.

## Feature Photo of the Month

*Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS will pay \$10.*



A ranger tacks up the new Smokey bear forest fire prevention poster. Smokey, whose admonitions have kept the nation vigilant for the last ten years, is sponsored by the Advertising Council, the state foresters and the United States Forest Service

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IS EASY STUFF

WITH A **HOMELITE** MODEL 17

True, it weighs in at only 22 pounds. But when it comes to production, a Homelite Model 17 will out-cut many chain saws in the heavy weight class. It brings down big, hardwood trees . . . 4 feet or more in diameter . . . quickly and easily. It cuts 18 inch trees in as little as 18 seconds. And, of great importance, it stands up under the grind.

**3.5** **hp**  
BRAKE\*  
22 pounds

*You can be sure of this!* Every time you buy a Homelite Chain Saw, you get a real production saw. It might cost a bit more to buy, but professional woodcutters have found that this initial cost of premium quality is soon written off by *increased production and decreased maintenance*. Built and backed by engineers who have specialized in lightweight gasoline-engine-driven units for nearly half a century, a Homelite gives you everything you need in a saw . . . more dependability, easier handling on every type of cut, and more power per pound than any other saw. Write for free demonstration.

PERFORMANCE • DEPENDABILITY  
**HOMELITE**  
CORPORATION  
SERVICE

4203 RIVERDALE AVENUE • PORT CHESTER, N. Y.

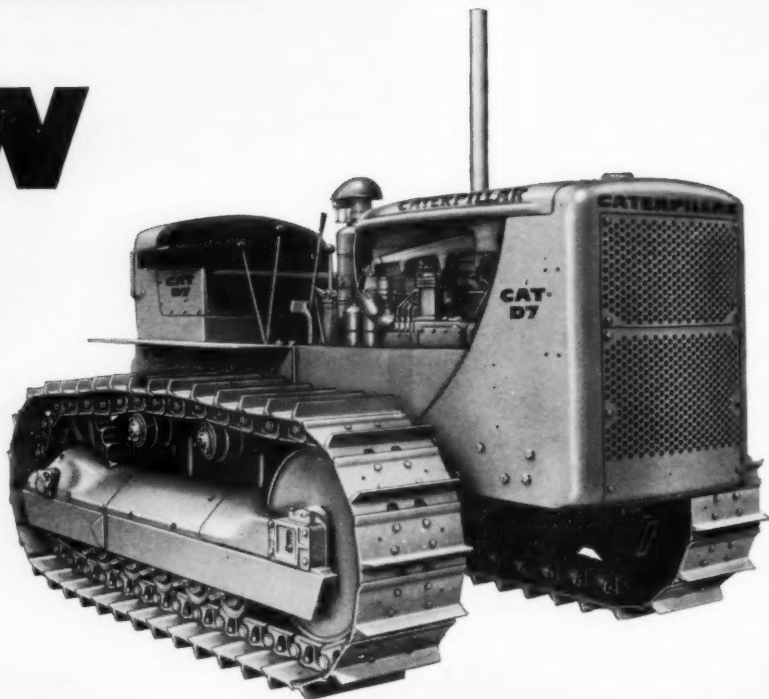
Canadian Distributors:  
Terry Machinery Co., Ltd., Toronto, Montreal, Vancouver, Ottawa.



**CATERPILLAR ANNOUNCES  
THE**

# **NEW D7 SERIES C**

**MORE POWER  
SMOOTHER  
PERFORMANCE**



**NOW 102 DRAWBAR HP! NOW A VIBRATION BALANCER ON THE ENGINE!**

*Here's the new CAT\* Diesel D7 Tractor... latest example of Caterpillar Leadership in Action!*

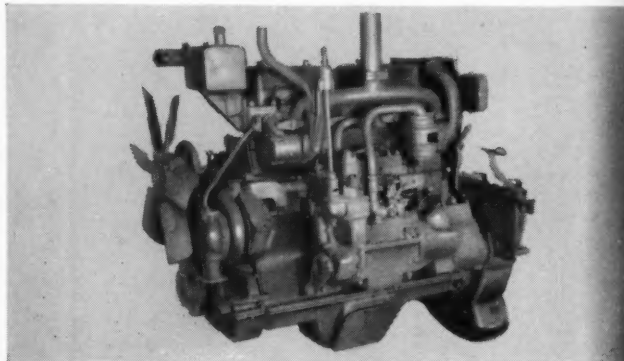
**Drawbar HP** increased to 102, engine HP to 128 (at 1200 r.p.m.).

**Vibration balancer** on the 4-cylinder engine now gives all the smoothness of 6-cylinder performance.

**Drawbar pull** now 28,700 pounds maximum.

**New starting engine** has more power for surer, faster starts in all weather, and simple single-lever control for easier operation.

**New "water quench" process** for hardening track shoes almost doubles shoe life.



**NEW 128-HP ENGINE** features improved fuel injection system, flanged center main bearing to take crankshaft thrust, many other advances.

The new D7 Series C is ready now to give you more profitable production than ever before. Call your Caterpillar Dealer today for a demonstration!

Caterpillar Tractor Co., Peoria, Illinois, U.S.A.

**CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS**

I would like additional information on the new D7 Series C

Name

Company

Street

City  Zone  State

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**THE NEW D7...MORE  
POWER, SMOOTHER  
PERFORMANCE**

